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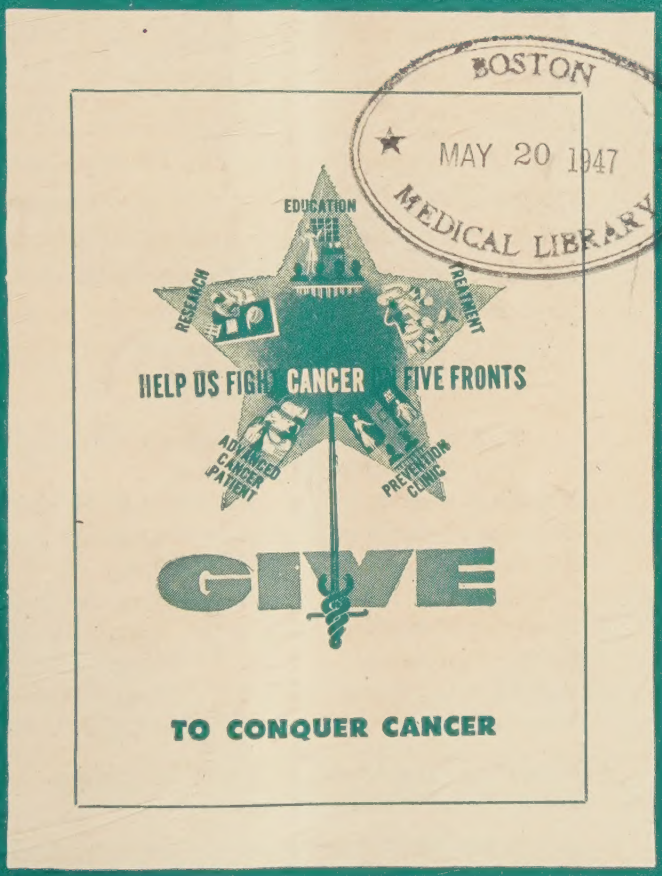

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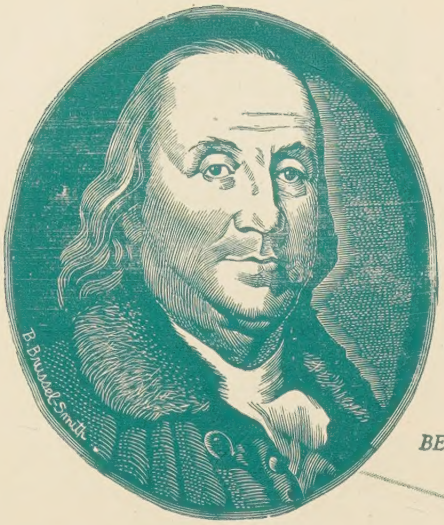

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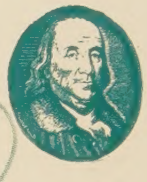

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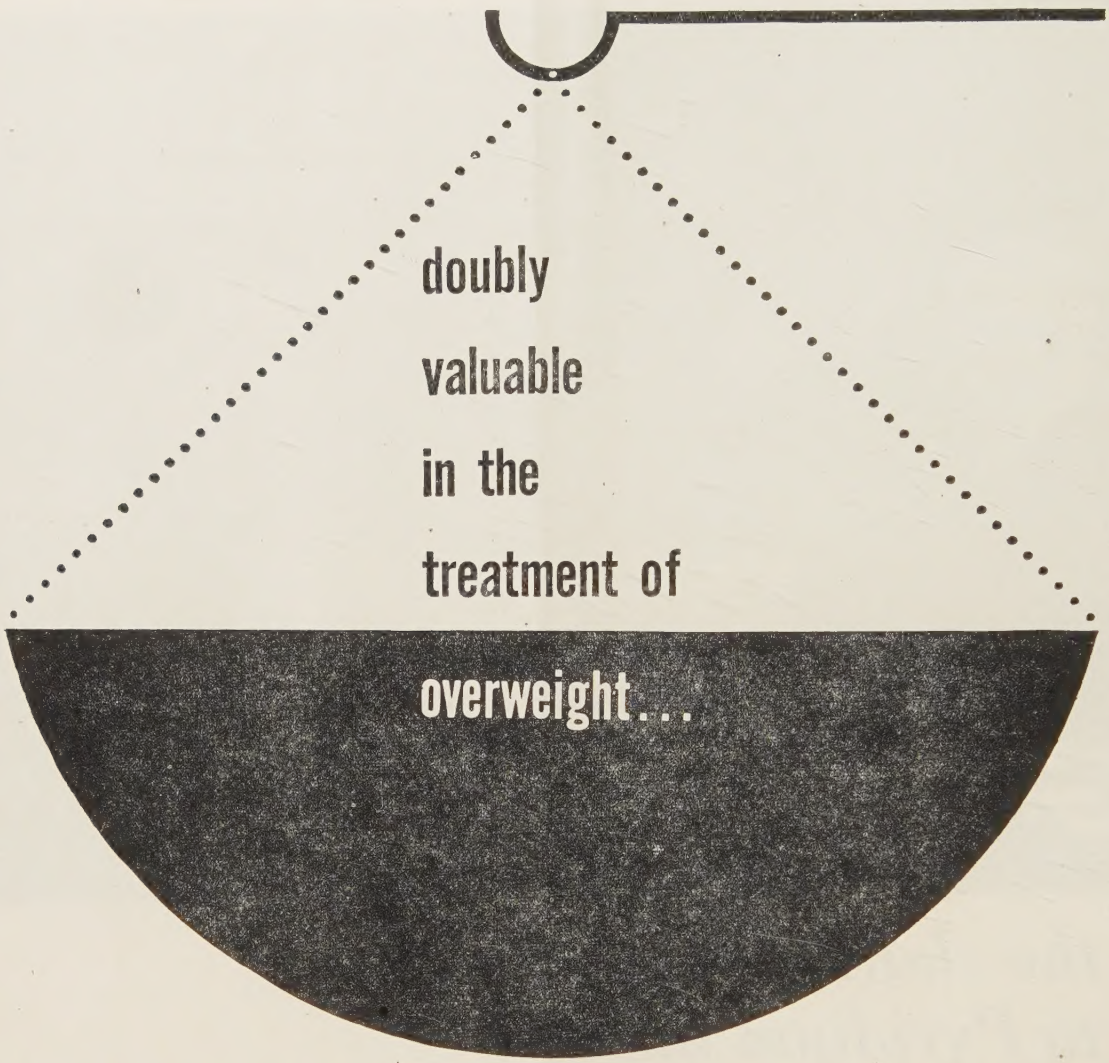

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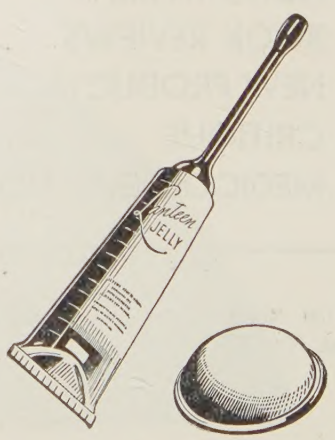

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In opening its 1947 campaign for medical supplies to relieve needy and war-devastated areas throughout the world, the Medical and Surgical Relief Committee of America asks that funds, drugs, instruments or medical and dental literature be sent to committee headquarters located at 420 Lexington Avenue, New York City.

The committee donates medical and surgical supplies to meet authentic appeals from any recognized agency, hospital, welfare group, or mission in any part of the world, regardless of race, creed, or color, provided that the beneficiary give free medical or dental service to the needy. Since its founding in June 1940, the committee has shipped $969,312.21 worth of supplies to needy institutions. It is the only organization to collect and recondition used medical and dental instruments for relief purposes. All donated supplies are rigidly inspected by experts and reconditioned before shipment. The work is carried on with small overhead expense. Nevertheless the organization cannot carry out its extensive plans without public contributions.

Peacetime appeals are more numerous than those of war days. A European survey of health conditions, completed November 1946 by committee members, revealed specific requirements of regions and institutions abroad. In an effort to relieve these needs, all kinds of medical and dental equipment and drugs are sent to scores of small hospitals which would ordinarily be overlooked by large-scale charity operations. The committee also sends medical and dental literature to European centers of learning where scientific progress and teaching came to a standstill during the war. Other areas including Africa, China, India, Asia Minor, Central and South America, the Philippines and West Indies are reached through American missionary and welfare organizations.

Dr. Eugene H. Pool as acting medical director heads an advisory committee of physicians including Dr. George C. Andrews, Dr. Conrad Berens, Dr. Russell L. Cecil, Dr. Stuart L. Craig, Dr. Joseph Felsen, Dr. Morris Fishbein, Dr. Malcolm Goodridge, Dr. Franz Groedel, Dr. Marjorie E. Reed, National Director of Women Physicians, Dr. Ada Chree Reid, Lt. Cmdr. Carnes Weeks, Dr. Allen O. Whipple.

* * *

Urticaria pigmentosa was described by Nettleship in 1869 as "chronic urticaria leaving stains". The name was given by Sangster in 1879, but the disease is known as *Nettleship's disease.*

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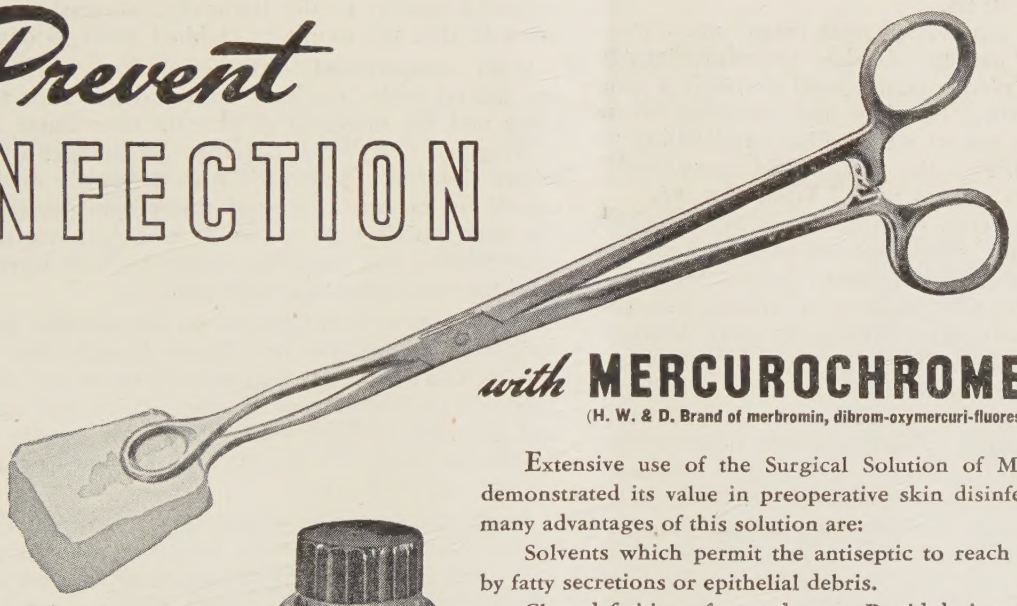

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Open Forum

Is Primitive Living the Answer?

T. SWANN HARDING
Falls Church, Va.

A British physician, Sir Maurice Cassidy, did rather an unusual thing in an address published recently, (October 26, 1946) by the *Lancet*. He was considering coronary disease and alluded to the popularly held theory that it is so often caused by "stress." He said, however, he doubted that there was more stress in our lives than in the lives of our ancestors, since our ancestors ate and drank a great deal more intemperately and irregularly than we.

He checked up on his own patients over a period of years and could detect little or no correlation between stressful living and coronary disease. He found himself unable to discover the commonly described "coronary-disease personality." The proportion of hypertensive patients was high, but the connection between this and coronary disease remained obscure.

This reminds us that scientists who have done research work concerning the ancient mummys of the equally ancient Egypt, assert that the people of that day were not only subject to dental caries but also to high blood pressure and arteriosclerosis. Yet they did not smoke or, presumably, live tense lives in the midst of stress.

This in turn reminds us that people are always recommending "natural" foods—forgetful that the wheat and the potato plants went through a long period of unnatural breeding and selection before the grain or the tubers were edible—and telling us that primitive life is the thing which gave health and longevity to natural man. Well, was it?

For one thing, even savages do not avoid malnutrition and disease. Nowhere was this more evident than in the islands of the South Seas, where even men are beautiful and the glory of woman, man can scarcely bear to behold. During the war, hosts of Melanesians, inhabitants of the New Hebrides and Solomons groups, were used in labor batallions. They and their entire families were submitted to medical examination. Since so much heart trouble and hardening of the arteries is cheerfully attributed to the evil ways of modern civilization, it was a little disheartening to discover the normal quota of cardiac trouble and arteriosclerosis among these children of nature.

Indeed, though the only wildlife they knew was not lived in nightclubs, they aged rapidly and died in their forties or fifties. Their blood pressure averaged just about that of Americans and Europeans, and certain interrelated groups showed an abundance of hypertension. There was also a great deal of kidney trouble, heart enlargement, and chronic coronary disease, though angina pains rarely, if ever, bothered them. This all proved rather discouraging, but apparently this is what you have to face if you want to live a natural life.

You doubtless know people who declare that the primitives never have cancer because they eat right and live naturally. Well the natives of Kenya in Africa have been touched but lightly by civilization, so lightly that their fragrance proclaims their indifference to soap. They live under fascinating natural conditions of filth and squalor. Sanitation is neither a name nor a memory, their main food is maize meal with occasional meat, and they contract cancer about as often as we do.

Savages, of course, rarely visit the medicine man for a scientific diagnosis, but it has been pretty well proven that the natives of Malaya, China, and East India have a cancer morbidity about that of the socalled civilized races, *i.e.*, the atomic-bomb race. There are differences in site, but the malignant disease is there.

Of course, people will come out of Tibet every now and then and say almost anything, and it wasn't long ago that two of them affirmed they had met a Tibetan tribe, the members of which commonly lived to be one hundred ten or one hundred twenty. Supposedly of ancient Chaldean ancestry, they consumed mainly vegetable foods, and wore few clothes, though the winters were rigorous.

They were of the pasty complexion we master racers call white, and they often married rather eagerly at eighty years of age. They knew nothing of cosmetics or perfumes, rubbed fat into their hair, suffered little or no illness—not even the common cold—and were very free from tension. They appeared finally, to die naturally; at least we are not told that the monitors clubbed them to death.

With comparatively little effort the white race has helped make Ceylon's infant death rate three times and the maternal death rate four times, that of England and Wales. Large percentages of the school children are afflicted with deficiency diseases caused by malnutrition, and thirty-nine percent of the rural families get a diet of less than two thousand calories daily, which contains too few legumes, too little meat, and too much rice.

On the other hand things do not usually go so well with the natives of Ceylon, though this may only be taken to prove that spicy breezes and rotten food will not keep a race healthy. Here, bad stature and physique abound among the poor people who do not eat well. Of course high-income Ceylonese are tall and well-built.

In Africa, primitive people manage to treat themselves about as badly as the master race treats them if it gets a chance. Half of their diseases are respiratory in nature, the cold in the head being as common there as in the United States. Certain tribes, like the Kavirondo, near Victoria Nyanza, have a diet about as mixed as the European, but those Kenya natives mentioned earlier herein, eat cereals almost exclusively and have very poor physiques.

The Masai live exclusively on meat, milk, and nice fresh blood just drawn from cattle kept for the purpose. Rheumatism and constipation are their common afflictions, and they might just as well be

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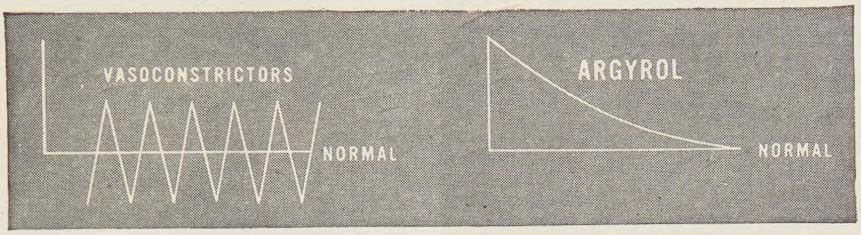

In the recent literature, reports are multiplying on the frequency of rebound congestion following use of many vasoconstrictors. This vicious circle of vasoconstriction and compensatory congestion is avoided with the use of ARGYROL, which produces no such effect, and restoration of normal function is more readily attained.

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civilized for all the good it does them to live naturally.

The Kavirondo add the urine of cattle to their milk before consuming it. This is perhaps an unconscious effort to build up its mineral content, rather than a charming conceit or a perverted fancy. A strict vegetarian diet and abundant summer sunshine protect the Kikuyu from neither tuberculosis nor cancer.

The natives of Nigeria have a high death rate and a low birth rate. They are not only undernourished but also fail to meet Caucasian standards for height and weight. Their disease resistance is low, and epidemics of infectious diseases are common; anemia and intestinal toxemia also abound. Their staple diet consists of guinea corn, pearl millet, some green leaves, fruits, partly cooked meat, sour milk, and ground-nut oil; it is deficient in protein, calcium, iron, and certain vitamins.

In general, African natives protect themselves poorly against the weather, suffer constantly from symptoms of disease about which they clamor and complain excitedly, tend to gorge themselves when food is available and to starve when it is not, and easily give in to death. Indeed they can be talked into dying, if it comes to that.

For instance, a West African slave woman, having become vexed at her aged mistress for her senile petulance, collected crumbs of her food, strands of her hair, and shreds of her clothing, mixed these with other substances, sang enchantments, and killed her mistress without ever touching her. Caught and accused of this crime the slave readily admitted it, but a missionary sought to intervene. However, the slave was fully convinced that she had accomplished her purpose; the chief of the tribe, whose mother had been killed, believed the slave. Both were sure that a murder could be perpetrated in such a manner, and the missionary, with his crude theories about death from natural causes, could win his point neither by logic nor by appeal to common sense. So the slave woman was taken to sea in a boat and decapitated in accord with tribal custom.

Such procedures are wholly justified among people who live natural and primitive lives, and who can be induced to think they are dead in so indirect a manner. But what about the tribes which first inhabited this continent, the socalled American Indians?

Some of them were pretty shrewd about the food they ate. For instance, the Dakotas pounded up hackberries, pits and all, and used them to flavor meat. The Pawnees also pounded up these berries and mixed them with fat and parched corn to eat, while the Meskwaki ground the hackberries up and ate them as mush. Why this hackberry mania?

In 1932, Department of Agriculture chemists analyzed hackberries. They contained twenty-nine percent of ash, of which nearly half was calcium oxide. The moisture-free fruits contained almost fourteen percent of calcium in this form. The cal-

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cium was largely concentrated in the hackberry pits. Thus the Indians were getting their calcium.

As a whole, the Indians appear to have done quite well living naturally. The life was a rigorous one and only the rugged could survive. Furthermore, when the Indians were placed in reservations and exposed to the best the atomic-bomb race had to offer, their physical status deteriorated.

Imagine the Sioux of South Dakota eating the following diet with great irregularity: grease bread made of white flour, oatmeal, great quantities of coffee, potatoes, beans and squash. They ate little if any green vegetables, fruit, butter, eggs, or milk, but relished sun-dried meat—sometimes of canine origin. This is about what the Sioux ate on reservations. The diet was low in iron, calcium, and vitamin A and they had no source of vitamin C, except occasional canned tomatoes. They constantly used cathartics, tended to be obese, often had bowed legs, decayed teeth and sore eyes. Infant mortality was high, half the people died from tuberculosis, and a third from pneumonia and influenza. Lo the poor, *poor* Indian!

It appears that people act like human beings whether they live natural or civilized lives. There is no panacea, no favorite prescription unless it be intelligence. You can live either way and achieve ill-health and malnutrition. Merely living like a primitive will not solve the problem.

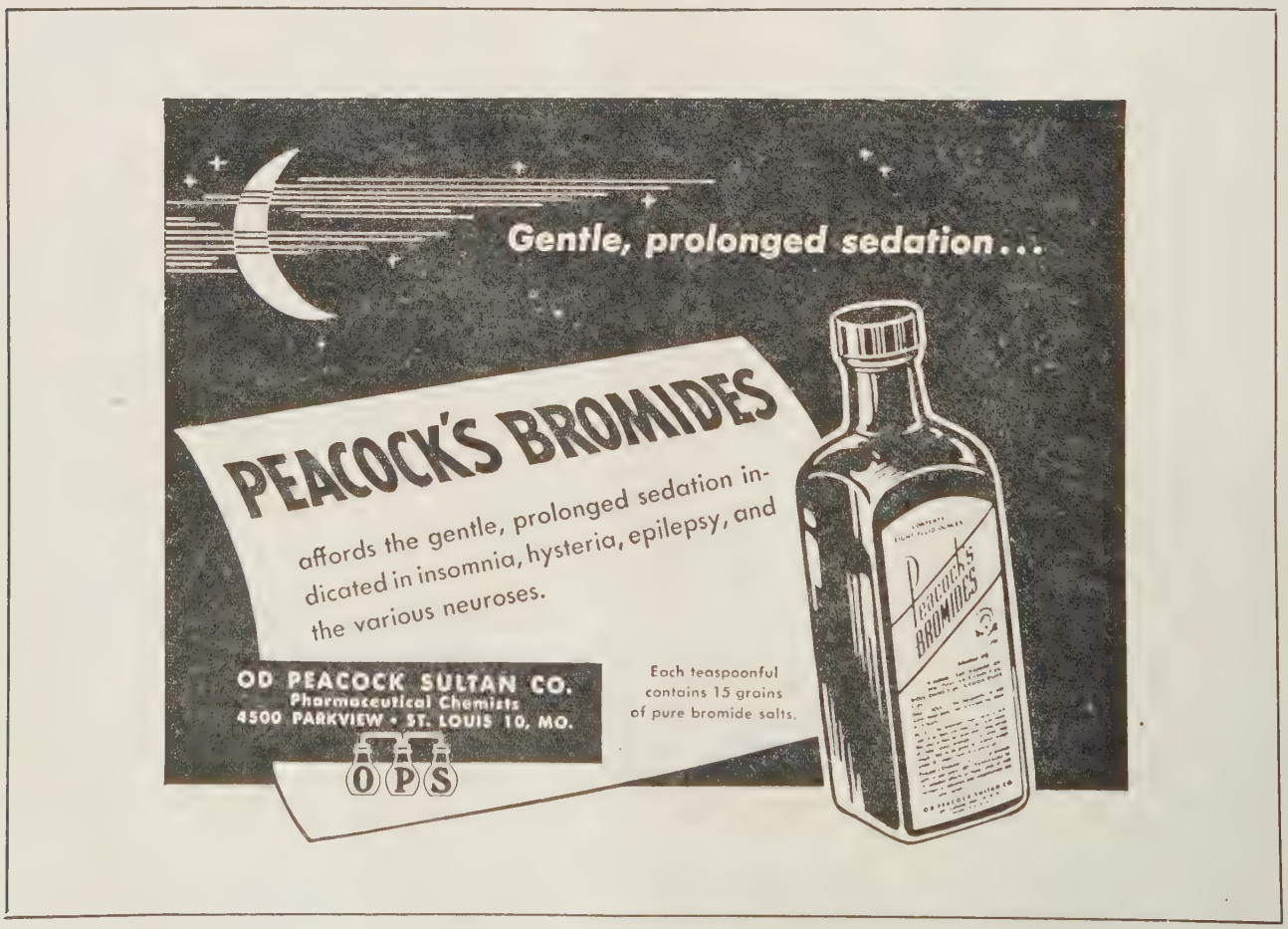
Granite Gables.

Isotopes in the Study of Amino Acids

A pound and a half of potassium phthalimide containing the "tracer" isotope Nitrogen 15, and believed to be the largest quantity of an organic compound containing an isotope ever prepared, was shipped recently from Rochester to Columbia University in New York. Produced in Eastman Kodak's synthetic organic research laboratory, the rare compound will be used by physiologists to determine what happens to amino acids in the human body.

According to Dr. C. F. H. Allen, assistant superintendent of the Kodak laboratory, under whose direction the work was carried out, Columbia scientists will convert the potassium phthalimide into special amino acids containing the isotopic nitrogen. Because its atomic weight is greater than that of ordinary nitrogen, the Nitrogen 15 will serve as a "tracer element" to tag the acids. These, in turn, will be synthesized and administered to test animals. Medical scientists, by tracing the acids and Nitrogen 15 in the animal organism, will add to their knowledge of this aspect of the chemistry of the body.

The announcement of the new compound closely parallels that made by Kodak in December of 1946, when high concentration Carbon 13 was first shipped on a commercial basis. Carbon 13, also used as a "tracer", is important in studies of the growth and metabolism of cells, including abnormal growth as in cancer.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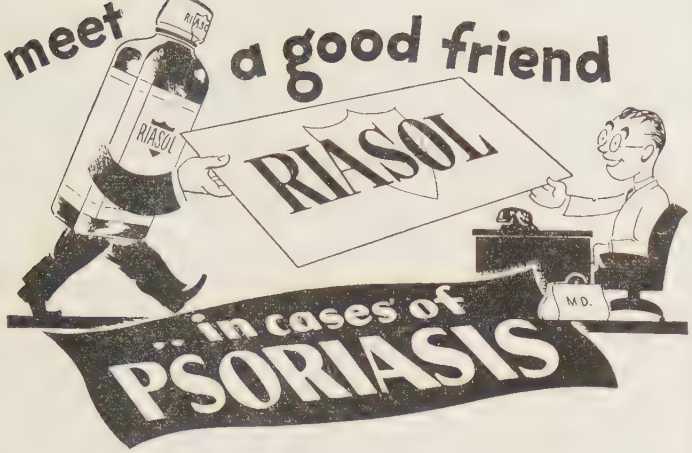

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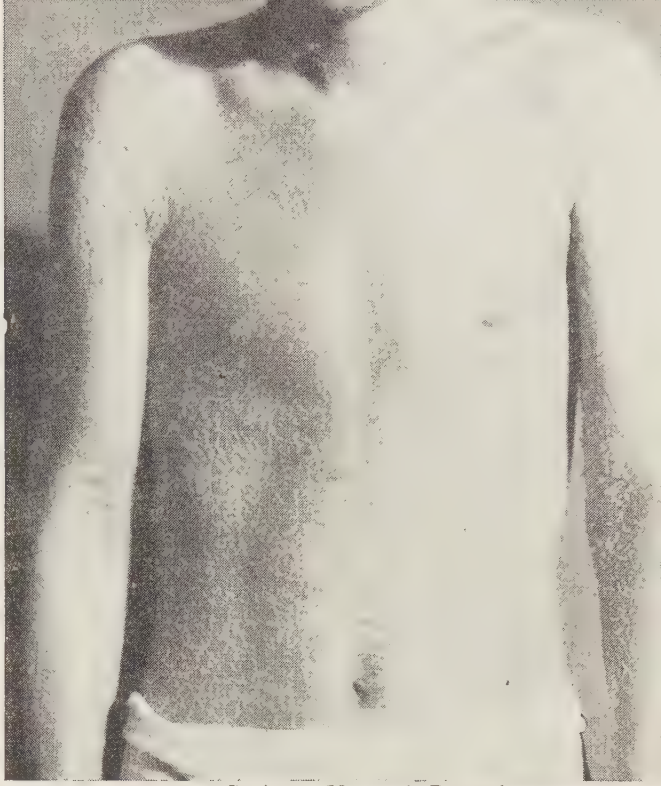

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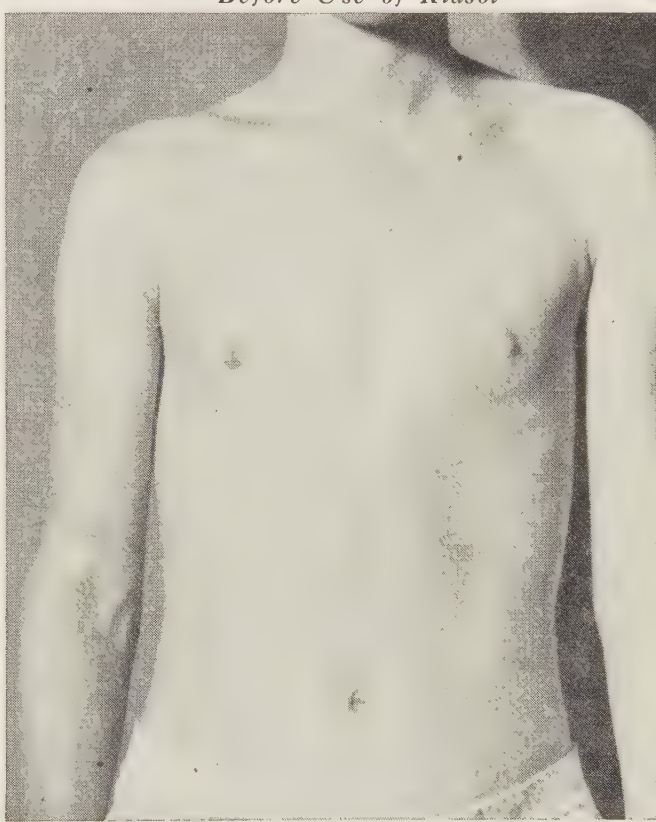

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Childbirth Without Pain

Childbirth is a natural function of the body and it is not intended that pain be associated with it in cases of normal labor, according to Dr. Grantly Dick Read, a prominent obstetrician from London, England, who is in this country at the invitation of the Maternity Center Association to present his views before professional groups. He presented the results of his careful investigations at the recent annual meeting of the Association at the New York Academy of Medicine.

Doctor Read has come to the conclusion that pain during childbirth results from the fear of delivery which is instilled in women long before pregnancy. He feels that this fear causes spasm of the circular muscular fibers of the uterus near the cervix, necessitating violent contractions of the uterus; it is these cramp-like uterine contractions which are the chief cause of pain in childbirth.

According to Doctor Read, physicians today attempt to break this fear-tension-pain syndrome by the use of anesthetics, whereas he proposes to break the vicious circle at the points of fear and tension. This he attempts to do by keeping the patient fully informed at each stage of pregnancy and by teaching her to relax by simple exercises, to overcome tension. Doctor Read makes a particular point of the necessity for the physician to spend a sufficient time with the patient, as soon after the onset of labor as possible, to instill confidence in her and to educate her further in what is expected of her during labor. Doctor Read states that through use of his methods, labor is shorter by an average of five hours.

In the discussion that followed, Dr. Haven Emerson pointed out that it would be important to have a large number of control studies and that various obstetrical services could easily try out Doctor Read's procedures. He felt that public health departments should be interested in collecting data on the subject.

Dr. Blackwell Sawyer, a physician from Toms River, New Jersey, stated that he had actually tried out Doctor Read's methods in his practice. He emphasized his skepticism of them in the beginning and his success after he had given them a trial.

Doctor Read's observations were published in book form under the title *Childbirth Without Fear* (Harper & Brothers, New York, 1944).

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A twenty percent reduction in the price of oreton (testosterone propionate) has been announced by the Schering Corporation, Bloomfield and Union, N. J. Recent clinical investigations have demonstrated that in addition to being specific for testosterone deficiencies in the male and effective in several gynecological entities, oreton is of great value in the management of the metastasis of breast carcinoma.

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The Eye Bank for Sight Restoration, Inc.

Dr. Derrick Vail, editor-in-chief of the *American Journal of Ophthalmology,* in a recent editorial stated that after a year of difficulties, and achievement in spite of these, the Eye Bank has become firmly established and is fulfilling its most important function; this is the collection and distribution of eyes, the corneas of which are used as material for the transplantation operation. He said that it makes little difference if the demand for these corneas is small, that the cases that are suitable for the operation are not numerous, or that the ophthalmic surgeons who are competent to perform the operation are few. There is no question about the need for this service. In these days of crowded hospitals and administrative difficulties, the problem of getting the recipient patient ready and the donor cornea at hand, at one and the same time, would have been one perhaps impossible of solution. This problem, however, is now solved, for all that one needs to do is to get in touch with the Eye Bank and an eye, sterile and preserved, is immediately shipped by air or messenger within a relatively few hours.

It is the purpose of the Eye Bank for Sight Restoration, Inc., not only to take care of the supply and distribution of corneas, but to go further and train young surgeons in the technique of the operation, as well as to encourage research studies in the sources, preservation, and handling of the material by laboratories or research workers anywhere.

Dr. Vail added that it is gratifying to see the announcement of the award by the Eye Bank of seven scholarships to ophthalmologists for training in the technique of the corneal-grafting operation. It means that seven more American ophthalmologists, from various parts of the country, will be trained in further surgical skills.

Detailed information regarding the techniques of the Eye Bank may be had on request to the Eye Bank for Sight Restoration, Inc., 210 East 64th Street, New York, N. Y.

National Mental Health Foundation

Harold Barton, executive secretary of the nonprofit mental health organization recently announced that an expanded program of public education on the problems and needs of mental patients will be undertaken by the National Mental Health Foundation through grants of $25,000 each from Carnegie Corporation of New York and the Rockefeller Foundation.

Additional grants of $25,000 each have been promised the National Mental Health Foundation in 1948 from the Carnegie and Rockefeller funds, provided the foundation can raise $122,000 through popular subscription, Mr. Barton said. To seek the additional funds, the Foundation is launching a membership drive in Philadelphia and planning popular appeals throughout the country in the coming months.

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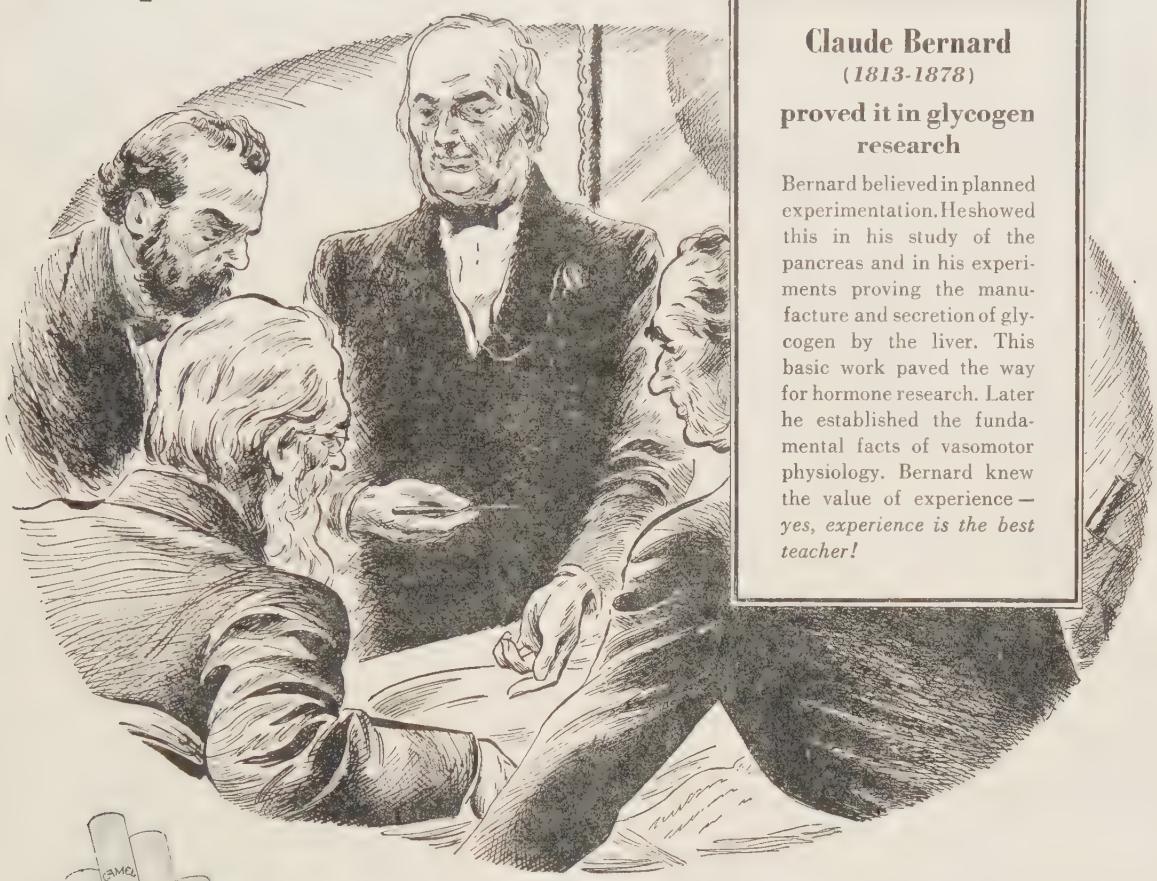

Claude Bernard
(1813-1878)
proved it in glycogen research

Bernard believed in planned experimentation. He showed this in his study of the pancreas and in his experiments proving the manufacture and secretion of glycogen by the liver. This basic work paved the way for hormone research. Later he established the fundamental facts of vasomotor physiology. Bernard knew the value of experience — *yes, experience is the best teacher!*

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Critique

Vitamin A In the June 1, 1929 issue of the *British Medical Journal*, E. Mellanby and H. N. Green wrote: "On the basis of animal experiments which indicated that vitamin A is an antiinfective agent, we have treated five cases of puerperal septicemia from whose blood hemolytic streptococci were grown, with preparations rich in vitamin A. All made complete recoveries, thus indicating that vitamin A, when given therapeutically, can raise the resistance of the human body against septic and infective microorganisms." Does that finding hold up now?

Chronic appendicitis "The radiological-clinician is he who depends as much, if not more, upon the radiological than upon the clinical findings, with a consequent weakening of his own confidence. It is because of this that the average medical man or the average surgeon of today is not as good a diagnostician as in former times. Too many doctors are unwilling to venture an opinion in the chronic or abdominal case without a roentgenogram. In fact, the laity now know so much, or rather so little, that they demand this form of examination. My answer to this request is, 'I am not a picture doctor.'" So wrote Dr. John B. Deaver, surgeon-in-chief of Lankenau, in the *American Journal of the Medical Sciences*, June 1929, meanwhile asserting that there simply was no such thing as chronic appendicitis, and attributing its assumed prevalence to faulty diagnosis by doctors who had surrendered their brains to the magic of the x ray machine.

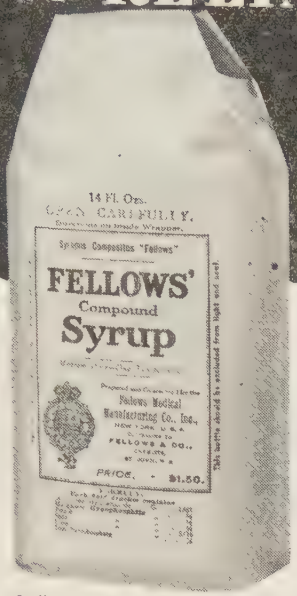
Toothbrushes There was an excellent article on toothbrushes, toothbrush materials and design, in the *Journal of the American Dental Association*, March 1946. It is by H. Berton McCauley D.D.S. of Washington, D.C. While Chinese literature described toothbrushes about 1600, the European origin of the device is shrouded in mystery and the first American patent was that of H. N. Wadsworth in 1857. However, William Addis of Clerkenwall, England, made something closely resembling the modern article in 1780, though no illustration of a toothbrush is reported for European civilization before 1818. Those who know most about such matters have been studiously ignored in the design of the commercial toothbrush which, especially when its shape assumes curves and its tufts an uneven trim, departs from basic essentials of efficiency. Best of all is a small brush, perfectly straight, with individual groups of tufts trimmed conically, each tuft the same height as all the others. Synthetic bristles and handles are best. The trim of the bristles should be straight and only a linear brushing surface is adaptable to all exposed dental surfaces; the stiffness of the brush should conform to individual requirements. Uneven tufts and curved handles are fancy but nonutilitarian. See the article for details.

The bread controversy The Medical Research Council of Britain, in 1929, had the following to say in an official report: "In advocating whole meal bread for general use, whether in times of need or in times of plenty, it should be remembered that not only men but also women and children are concerned, and that all the experiments on which the arguments are based have been carried out in animals or adult males. Children are very intolerant of high cellulose diets, and for some, brown bread is far too irritating, even if given with the idea of relieving constipation. Appetite is such an important factor in all digestive considerations that no one who dislikes a food of unproved value should be forced to eat it if it can be avoided. In time of peace, of course, the adult population, if they have the choice, will never eat whole meal bread unless they like it, no matter how specious the advertisement, but they may force their children to eat it in the belief that they are doing them good. One should therefore be cautious in advising whole meal bread generally, and wait until careful unbiased experiments have been done on a sufficient number of women and children. Thus only can accurate conclusions be drawn."

Filipino foods Filipinos comprise about twelve percent of Hawaii's population, and they brought their old food habits to their new environment. Their diets are actually not as good as they were in their native homes, but a good diet is possible at little or no extra cost to them, according to Carey D. Miller of the Hawaii Agricultural Experiment Station. Dr. Miller says that they urgently need to stop eating white, polished rice, now making up the bulk of their diet, and to change to the nutritious, nonpolished rice, in order to get more minerals and vitamin B_1. The trouble is, that once they arrived in Hawaii, the Filipinos no longer used home-pounded rice, because the white, polished rice was cheap on the market; they bought it and lost many vitamins and minerals from their diet. Use of more native root foods, taro and poi, would help make up the B-vitamin deficiency for them, and they should also consider the sweet potato, an inexpensive source of calcium, iron, and vitamins A, B and C. However, they have come to regard eating sweet potatoes as a mark of low financial standing and they prefer to be aristocratic and ill-fed. Ripe bananas would make a fine sweet food for them, as well as for many of us. Ripe papayas are also high in vitamin C. In general, the Filipinos of Hawaii are inclined to adopt the worst American food habits—candy, soft drinks and concentrated sweets—in lieu of the best. Their diets are overbalanced in carbohydrates, low in meat, fish and eggs, and adding concentrated sweets increases the tendency towards deficiency diseases and malnutrition. There is much that we could learn from their difficulties and the proper solution of the same.

The Critic

A RELIABLE BITTER TONIC



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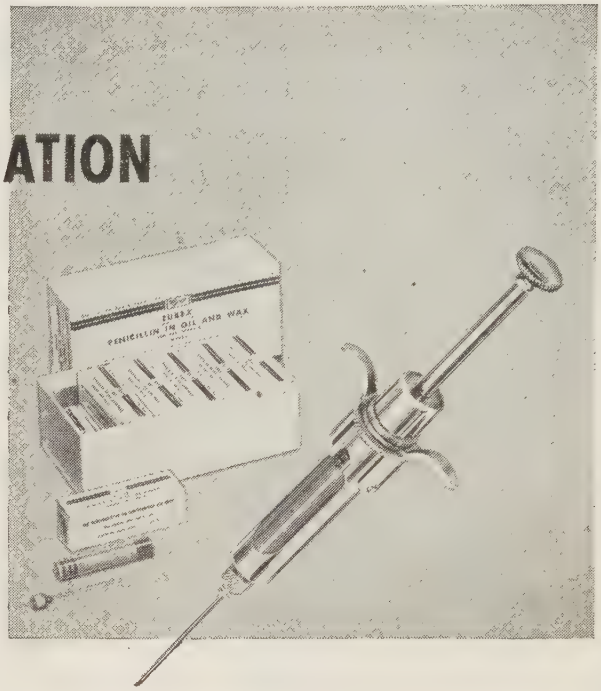

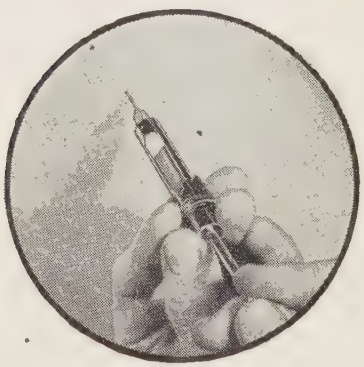

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PELVIC LESIONS OF WOMEN

Their Systemic and Local Effect

FRANKLIN I. SHROYER, M.D.
Dayton, Ohio

Medical history tells us that it has been almost thirty years since the medical profession's attention was called to the importance of pelvic lesions of women and their effect upon the general health of women, their nervous system, their circulatory system and their digestive system, not forgetting their reproductive system.

Sturmdorf, in 1919, stated that chronic endocervicitis and metritis are a "concrete clinical entity", but are accorded no special consideration in recent text books.

However, today all text books do recognize the endocervix as a clinical entity and do give it special consideration. They also recognize the role of cervical infection as a source of metritis, paracervicitis, salpingitis, pyelitis, hepatitis, etc. An uncomplicated infection of the cervix does not cause pain, perhaps this is unfortunate, as pain might call the attention of both the patient and physician to such a local lesion, or as Heisel says "set off an alarm" like "a diseased tooth, or a kidney stone".

The infection spreads through the uterine and pelvic lymphatics and the toxins are carried to the liver and heart by the blood stream, causing a hepatitis and palpitation and affecting the sympathetic nervous system, thus producing indigestion, backache, mental irritation, and lumbosacral pain. These symptoms cause the patient much worry and distress and often result in nervous exhaustion. The cervicitis and paracervicitis will cause dyspareunia, or painful intercourse, and nothing is more likely to make a woman consider herself abnormal and cause her to become introspective.

Cervical and uterine infection or an old salpingitis play a very important role in constitutional infection, which like other focal points of infection may affect any organ in the body. Endometriosis is a definite aftermath of an old chronic cervicitis or metritis and is an obscure, troublesome, pelvic lesion which causes pain and toxicosis.

Cervical, uterine and tubal infection need not be of a severe degree in order to serve as a source of infection; this is equally true of other organs in the body.

A patient may be treated for years for nervousness, indigestion, gallbladder attacks, thyroidtoxicosis, vaginitis, pruritis, cystitis, anemia or mastitis; all of which may be pure symptoms of a cervicitis or metritis or endometriosis and may be evidence that the infection has spread beyond the cervix. An abortion five, ten or fifteen years past can be an etiological factor.

A patient may be treated by her physician and others for stomach trouble—and all the time the stomach trouble can and may be due to a cervical infection with postcervical glandular infection and enlargement, with the omentum attached to the pelvic area of inflammation—that can only be determined by a digital rectal examination. Macroscopical examination of the cervix may often disclose a fairly normal cervix with small stellate scars, but a rectal examination will disclose glandular congestion and pain on pressure.

Goodall and Power stated that the cervix was "the tonsil of the uterus", or as some writers later stated, "the pelvic tonsil".

By admitting that the infected cervix is a source of systemic infection, the ambiguous category of the reflex neuritis, so prevalent in women with cervical disease, is thus brought within the more limited range of the toxicosis, along modern lines of clinical research. We have learned to recognize the systemic manifestations from primary points in the mouth, the gallbladder, the appendix and the cervix; so why term a symptom toxic there and of no significance in the cervix? There is no doubt at all that there is a type of chronic appendicitis which will cause gastrointestinal disturbance on a par with a cervicitis or a metritis.

Cutler, of Peter Bent-Brigham Hospital states, "When all data are in and everything else is normal except an obviously adherent appendix or evidence of an obstruction of the lumen of the appendix by a fecalith, then I consider the appendix may well be removed".

In 1927, C. H. Mayo and C. F. Dixon, emphasized the importance of the cervix in women and the prostate in men as a focus of infection, "on a par with the tonsils".

Sistrunk stated that he had found cervical infection to be responsible for many different groups of symptoms, among which he noted neuritis, neuro-

muscular pains, arthritis and general nervous exhaustion.

In 1937, Sellars and Sanders stated that gynecologists "have awakened to a new conception of the importance of cervical infection".

The anatomical location and histological structure of the cervix is ideal from a focal infection standpoint. The cervix is exposed to infection from without as well as within; it often happens at childbirth. Lacerations however slight, are prone to infection; then in due time cause an endometrial infection, then a muscular infection or a metritis, then a tubal and a lymphatic gland infection around the cervix and uterus and throughout the pelvis and the renal lymphatics. The uterus and cervix are well supplied with lymphatics and blood vessels, so that through the infected areas, a constant stream of toxins is discharged into the general circulation. It is not surprising then, that patients with cervical laceration and uterine infections have a resulting gastrointestinal, dietary and nervous disturbance.

An examination of the cervix should be digital as well as with the speculum. Look for old healed scars—a normal cervix will measure about 2 cm. in diameter—any cervix that measures greater than 2.5 cm. is suspicious and certainly any cervix measuring 3 cm. or over is definitely congested and infected, even if you cannot see any scar tissue, and the uterus is likewise enlarged and infected.

The symptomatology of infection in the cervix and uterus is varied; pelvic symptoms may be absent or there may be no clinical evidence other than painful intercourse or vulvitis. The general symptoms are indigestion, nervousness, fatigue, neuritis, palpitation, occipital headache, pressure on the top of the head, high blood pressure, mental confusion and lack of sex desire.

Now, many doctors will start to treat the patient with some form of estrogen. Of course he has examined her—she has had every test, B. M. R., blood count, urinalysis, blood chemistry, G. B. x ray, and half a dozen other x ray pictures—everything seems to be in order. So bed rest is prescribed, sometimes for three weeks in the hospital, because the patient is tired. Nonsense! Of course, she has a toxic fatigue. In fact, exercise would have been of greater benefit to her; exercise and a fasting diet of fruits and fruit juices—if fruits do not agree, then vegetables and vegetable juices. The indigestion and fatigue and the host of other symptoms are caused by toxins and their effect on other organs; the liver is congested, a hepatitis is present, the gastric juices are deficient and hydrochloric acid is absent, but will return to normal after the removal of the infected focus and proper dietary measures.

Gynecologists recognize the importance of pelvic infection in women. We also recognize the importance of a chronic appendix in the etiology of sterility, but many of us too often fall down in arriving at a correct diagnosis. The internist and the general practitioner have a much better opportunity to recognize the actual cause of the nervous manifestations in women.

Recently, a large, fat woman, forty-nine years of age, was referred by her sister-in-law. The patient was suffering from fatigue, soreness at the base of her tongue, soreness in her breasts, vulvar itching and burning, and her skin was bile stained. She had just had a complete physical examination by an internist; six months previous she had been placed in a hospital for three weeks rest, all in vain; then she had had estrogens for six months, with no results. This same patient had suffered a bilateral tear when her baby was born twenty-two years ago. The cervix and uterus were both markedly tender on palpation, the uterus was subinvoluted, the cervix was no less than 4 cm. in diameter, indurated and swollen, and a mucilaginous discharge was hanging from the cervical os. The correction and removal of this focal point of infection caused the woman to feel like a new person. She had spent all her husband had saved in the last number of years, trying to regain her health.

The treatment of cervical and uterine infection must depend upon the length of time that the infection has persisted. In the earlier stages a skillful curettage and surgical repair of the cervix, combined with conservative treatment of the secondary infection in the pelvic lymphatics and the uterus, will give good results. But if the infection has persisted for fifteen or twenty years, then a hysterectomy is the treatment of choice. A supravaginal hysterectomy has no place in pelvic surgery, except in a very, very few select cases. Three to seven percent of cervices which have not been completely removed, undergo cancerous degeneration, some within a year after supravaginal hysterectomy. With proper surgical technique the death rate is no higher from total hysterectomy than from subtotal or supravaginal hysterectomy, also the patient is protected from further degenerative changes in the cervix. It is inexcusable for any patient to die of cancer of the cervical stump. Here cancer is most easily prevented and controlled.

The cervix is not necessary for the reconstruction of the pelvic floor. The pelvic floor can and will be just as firm without the cervix. The vaginal walls are sutured together after the cervix is removed—the right and left broad and round ligaments are sutured to the center of this closure—chromic cat gut—a stay suture of cotton or linen, adds further support. The whole area is covered with peritoneum and not a suture will be showing; a firm, lasting pelvic floor is established. Women that have become impotent because of these old cervical and uterine infections will become rejuvenated in their sex life. There always is a healthy ovary or a part of one to leave behind and frequently neither tube nor ovary need be removed. Any perineal relaxation must be corrected.

Some patients report that their doctor told them that if the cervix was removed their sex life would be impaired, because the cervix is the seat of sex life. Of course, we know that is not true. The cervix is the least enervated of all the sex organs—as it should be, because of its function in childbearing—it has definitely no place in the sex life of women.

Ninety percent of the women the author has seen have previously been to the general practitioner in regard to a neuritis, a gastrointestinal disturbance or nervousness. All have received shots of some form of estrogen, in periods varying from three months to five years. Then the internist also has had a whirl at them and he sends them to the general surgeon; then back to the internist they go with no better diagnosis than the internist had made. The author here refers to the obscure cervical lesions that only the experienced gynecologist is able to recognize. The large, swollen, congested, erroded, everted, bleeding, infected cervix is easily recognized by the internist and general practitioner.

If with the aid of the speculum, you see a cervix that is healed; but reveals one, two or three scars running out from the cervical os—you are surely looking at an infected cervix, which under the microscope will disclose a chronic cervicitis. Now, suppose you had a pair of tonsils that you knew harbored an infection, what would you advise?

Upon palpating the cervix with pressure on the fundus, pain will be present, because a metritis and a paracervicitis has arisen and this is a distinct cause of painful coitus. After paracervicitis has developed, then the subperitoneal glands along the posterior cervical wall become infected and a metritis and a hyperplasia of the endometrium develop.

Every gynecologist has seen numerous patients who were treated for cystitis over varied periods of time, only to find that they were suffering from a ureteritis, induced by an appendix which was attached upon the ureter at the brim of the pelvis, or an old chronic salpingitis induced by an abortion or an old cervical infection or a gonorrheal infection.

It is good practice to make a diagnosis by elimination—eliminating each organ as the possible focus of infection.

Turlington states that, "Neurotics are encountered in every specialty, but surely there are more of them found in the practice of gynecology than in any other".

Cervical infection will often intensify the nervous disturbances of the menopause; a large majority of women suffer in a minor degree from various vasovagal symptoms, such as "hot flashes", etc. and other nervous disturbances due to the withdrawal of the internal secretions of the ovaries. Here, removal of all foci of infection and the proper administration of hormones and proper dietary measures will be of incalculable value.

Graffagnine states, "Chronic cervicitis is limited largely to gynecological literature and in clinic practice this condition receives notice almost only from the gynecologist. Yet it is a subject of tremendous importance in general medicine and surgery".

Heart trouble is frequently only a symptomatic heart, a uterine myoma will cause distinct heart symptoms.

Miller states, "We may well ponder why a focus in one part of the body (tooth, tonsil, gallbladder, appendix) should be considered a serious menace to health and yet an active infection of the cervical glands be viewed with indifference and its treatment characterized by neglect".

Leukorrhea in married or unmarried women is distinctly a pathological condition and should be treated in the virgin by dietary and health measures, as correcting constipation and eliminating colon bacillus transmission; and in the married, child-bearing woman, both local and constitutional treatment should be instituted.

High blood pressure is a distinct and important symptom frequently encountered during the course of examination. The author never mentions the blood pressure to his patients, but proceeds at once to instruct them, both written and orally, in matters of health. High blood pressure is a complicated, clinical entity having a host of protean lesions and complications which react among themselves with resulting detriment to the individual. It has been the practice to refer these patients to an internist, only to find that the patient was taking vasodilators, many of which were severe toxins in themselves and at most gave only temporary relief.

Many a case of high blood pressure was benefited by the removal or correction of the focal points of infection; also many retained an increase of the pressure after focal points were removed—cervix, uterus, gallbladder, teeth and etc. These patients have firm, rigid blood vessels, a congested liver and a genuine low grade hepatitis with some sugar in the urine. After the internists treated the patients for diabetes, they frequently still retained an increased pressure. Fats were prescribed and many patients had trouble tolerating them because of their liver stasis or hepatitis. Actually fats are harmful to a diabetic.

We often think of high blood pressure as being due to endocrine disturbances of the thyroid or adrenals. Diseased thyroids are accompanied by increased pressure and many gynecologists have seen a thyroid disturbance clear up after an old uterine infection was removed. Here we refer to the milder form of hyperplasis of the thyroid.

A pressure of 200/100 will often disappear after the removal of a badly infected uterus and a chronic infected cervix. Why leave a badly infected cervix or uterus in a woman past 40 years of age, or why leave a diseased uterus in a woman of the same age or slightly younger or much older, by doing an ineffective cervical repair? A repair cannot clear up a chronic cervical or uterine infection. If the uterus is removed, then remove the cervix also.

When you study the lymphatic structure of the pelvis of women, you will soon see how the cervical plexus joins the uterine and the uterine joins the pelvic and the pelvic lymphatic ascends to the kidney. This is how infection is disseminated and explains the frequent pyelitis in women. Also, the complete blood supply of the whole infected area of the pelvis must return to the lungs through the portal circulation. The over-loaded toxic blood supply will distinctly cause the liver structure to become swollen, congested with interlobular pressure and poor secretion. The patient's complexion will be-

come bile stained. There is not enough bile to carry on proper digestion, thus bloating and putrefaction follow. In many cases the pancreas becomes congested and inflammed, and in both cases function is improper. The necessary bile is not secreted and certainly Langerhans' cells can function no better than the liver cells. So, with all of the toxic material thrown into the blood stream, the nervous system is affected. The patient suffers from nervousness for which she travels from office to office, receiving hypodermic after hypodermic; and all this trouble can have its origin in a cervicitis or a purulent endometritis. In all patients suffering from nervousness there must be an etiological factor and here it is paramount that the factor be isolated and eradicated before subjecting the patient to numerous shots in a blind attempt to gain results.

What are some of the abnormal changes that take place in a patient with high blood pressure? Primarily, there is a chemical change that has taken place and at this point the author wishes to enter an objection against the belief of inherited high blood pressure, but not against the tendency to inherit. If one parent die of cancer or tuberculosis, that is no reason why the child should die of the same. However, the child should know of the tendency and therefore live a dietary and healthful life that will give his system the ability to ward off the same disease. Such is the case of high blood pressure; you may have the tendency, but you can ward off the symptom and tendency can mean nothing.

The chemical changes are produced by infections and foods. In high blood pressure a patient complains of headaches, dizziness, poor vision, muscular soreness, pain in the joints, indigestion, palpitation of the heart, irritability, nervousness and extreme fatigue. Arterial sclerosis does not always accompany high blood pressure. The patient has an abnormal congestion of the brain tissues and the cellular structures in various parts of the body are edematous and poisons are deposited in the muscles and joints.

Indigestion is usually due to a lack of sufficient bile, trypsin, lipase, insulin and other digestive enzymes. This lack will produce intestinal putrefaction. Palpitation of the heart is produced by irritating gaseous pressure against the diaphragm as well as toxins on the heart muscle. Nervous irritability is an effect of the toxic poisons on the sympathetic nervous system and extreme fatigue by toxins causing cellular fatigue. The cellular structure of the body is over-loaded with chemical and bacterial toxins. The bacterial toxins will flourish in the absence of the protective normal body enzymes, the liver becomes congested and cloudy swelling takes place, and thus you have obstruction to the portal circulation and the whole vascular system becomes irritated. The muscular coat of the arterial walls are irritated and contracted, thus narrowing the arterial lumen.

When the normal functional activities of the organs are affected, normal chemical reaction does not take place. A damaged liver will retain cholesterol which becomes absorbed and so over-loads the blood stream. Particles of cholesterol will adhere to the arterial wall causing a narrowing of the lumen, an atheroma of the arteries, as in the coronary artery, complete obstruction, coronary occlusion and heart damage and often death. The same thing happens in apoplexy—a patient with a low blood pressure will have a "stroke" or paralysis due to cerebral hemorrhage—the cause will be an obstruction of the blood vessel caused by cholesterol deposits—so a ballooning of the artery takes place and often ruptures. In high blood pressure the exact condition exists—the blood vessels become narrow, the inner wall becomes thickened and the muscular wall becomes irritated and contracts, thereby heaping insult upon injury—narrowing of lumen—brittle walls—rupture—frequently death. This substance, cholesterol, is caused by excesses of rich foods—eggs, fats, proteins. The vegetables and fruits have little to do with formation of cholesterol.

In a series of one hundred gynecological patients with blood pressure ranging from 150/95 to 250/120, improvement in every case has taken place after a few days of fruit diet; then correcting or removing all focal points of infection. This is followed with several weeks of fruit salad diet, which furnishes the patient with a great deal of vitamin C. This fruit diet is supplanted with a delicious fresh vegetable salad, plus cottage cheese and a glass of fresh buttermilk, six ounces at the evening meal.

Every morning some physical exercise should be taken. Daily walking at a slow pace at first and increasing it to a brisk walk later. A couple of squares at first, a dozen squares in a week and several miles at the end of two weeks. Smoking and all alcohol must be avoided. It is a fact that high blood pressure will return to normal after a short fast. Also the liver and pancreas must be given attention and not be neglected. Both these organs can be corrected by proper medication and diet, after removing any infection that may be present in the system.

Every person suffering from high blood pressure should go on a fruit diet twenty-four hours of each week. The results obtained will be amazing. All should start their health program by going on a fasting or fruit diet, primarily. Patients suffering from high blood pressure should be instructed to forget their high blood pressure and devote their time to building up their health through proper dietary measures and exercises.

The only medication advised for the patient is a daily enema, for proper bowel elimination, made up of soda bicarbonate; bile salts may also be used. After several months the bile salts can be put aside. The dietary regime must be followed by adhering to a twenty-four hour diet, each week, of fruit salad with buttermilk and cottage cheese. The blood pressure should not be taken oftener than once in ten days and should not be discussed with the patient. Never, never put a patient to bed. A series of exercises every morning before breakfast and a thorough rub-down, performed by the patient with a

rough turkish towel every morning is an excellent practice. Of course they must not exercise to a point of fatigue.

A blood pressure of 200/100 is not a contraindication to an operation—but the patient should not be rushed into an operation. Preparation should be carefully made—strict dietary measures, hot soda enema every night before retiring, phenobarbitol to control any nervousness or sleeplessness, heat treatment to the cervix and uterus, either Elliot or electrical, should be given daily. This preoperative treatment should be carried out for two weeks to a month before performing an operation. The author never operates on any patient, unless it is an emergency, until that patient has been detoxified through dietary measures and local treatments. All patients with chronic infections have a low-grade liver congestion. The lymphatics are congested and overloaded. The cellular structure throughout the body is edematous and sluggish. The veins throughout the uterus, broad ligaments and other structures are engorged, tortuous and loaded with toxins. Dietary measures, elimination and treatment will relieve this congestion and unload the blood stream of bacterial toxins; thus healing will take place faster and better.

The success of early rising of operative patients is the stimulation given the circulation through muscular contraction; thus relieving congestion or stagnation, bringing a new blood supply and better nourishment.

Conclusion

Every woman should have a thorough pelvic examination using the speculum and colposcope, test for glycogen, digital examination of the vagina and cervix, and rectal bimanual of the uterus and adnexa. We should keep in mind the probability of pelvic infection in the cervix, uterus, tubes and ovaries as the foci of infection. Note the normal softness of the cervix and uterine body, absence of pain, movability of cervix and uterus, checking the retroperitoneal glandular system. Every woman that undergoes an abdominal operation should be subjected to a cervical and uterine curettage—only severe, acute abdominal cases excepted. By so doing we will be performing our duty to our female patients and thus all patients will be benefited by receiving an accurate diagnosis.

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VITAMIN E IN HEART DISEASE

IV

General Remarks

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Previous papers on this general topic (1,2,3,4,5,6) have pointed out the usefulness of vitamin E in large dosage in the management of various types of heart disease. Our experience now covers many more cases than the one hundred twenty-six reported up to date, but we are using the data of these papers for this further analysis, since later experience merely lends the weight of confirmation. All of our patients have been private patients, personally studied and followed.

A more concise tabular summary of these results appears in Tables I, II and III.

Angina

The relief of pain in anginal cases is usually both rapid and nearly or quite complete. Excessive exertion may still bring on cardiac pain, but the amount of activity required to do so is greatly increased. In a few instances prolonged treatment was necessary before the pain was eliminated, but these patients were in the great minority. One patient responded only after five weeks of therapy, followed by a powerful hypodermic injection intramuscularly; the results which followed were then very good indeed.

One sixty-five year old patient with a history of two coronary occlusions, would feel severe boring precordial pain after such slight exertion as moving slowly from one chair to another. This pain would last up to one and a half hours and previous physicians could relieve it only with morphine. He was given ten 25 mgm. tablets alpha-tocopherol acetate

per day and after ten days showed no relief. He was then changed to ten 50 mgm. capsules of mixed tocopherols and again experienced no relief. The dose was increased to twelve capsules per day, still without relief; but when the dose was increased to fourteen capsules per day his relief was prompt and complete. He can now move carefully about his grounds without pain. We have repeatedly noted, especially in anginal cases, that there is an optimal dose, perhaps a therapeutic threshold, for each patient; below that threshold little or no help is obtained. This reminds one of certain types of endocrine therapy.

TABLE I

EIGHTY-FOUR CASES HAVING ANGINAL PAIN AS A COMMON SYMPTOM

	Number of Cases	*Percentage of Cases*
Complete relief from pain	6	7
Marked improvement	38	45
Some improvement	37	44
No improvement	2	3
Deaths	1	1
Total	84	100

Rheumatic Heart

Cases of acute rheumatic fever, although few in this series, rank among the most striking results. Vitamin E combined with a sulphonamide seemed to restore these patients to a clinical normal in a remarkably short time. It is, of course, too early to say what the later effects of such therapy may prove to be.

The effect of our treatment upon heart enlargement and valvular disease cannot as yet be finally assayed. Probably little is to be expected of it in either of these respects for obvious reasons. But there have been indications of an improvement in cardiac contour and better myocardial function in some of these patients who have been followed for several months.

TABLE II

TWENTY-EIGHT CASES RHEUMATIC HEART DISEASE OF WHICH ONE WAS ACTIVE

Main Signs and Symptoms	*Cases*
Precordial pain	8
Dyspnea	10
Auricular fibrillation	11
Cardiac enlargement to fluoroscopy or six ft. plate	17
Valvular lesions	25
Pulmonary congestion	4
Ankle edema	7

	Number of Cases	*Percentage*
Complete relief of symptoms	0	0
Marked improvement	15	53
Some improvement	12	43
No improvement	1	4
Deaths	0	0
Total	28	100

Hypertensive Heart

The hypertension present in these patients was, of course, a limiting factor in our results, as vitamin E appears to be of little or no benefit to hypertension *per se* (7). However, it is to be noted that in hypertensive heart disease the blood pressure was usually reduced slightly, and occasionally very noticeably. The patient often experienced considerable relief from the type of symptom usually ascribed to high blood pressure. The decompensated hypertensive heart appeared to respond as well as decompensation can on any other etiological basis.

The age of this group of patients and the duration of the hypertension were other factors strictly limiting the benefits which E therapy could offer them.

TABLE III

SIXTY-SIX CASES HYPERTENSIVE HEART DISEASE

Main Signs and Symptoms	*Cases*
Pain	39
Dyspnea	51
Auricular fibrillation	10
Cardiac enlargement	19
Pulmonary congestion	12
Ankle edema	32

	Number of Cases	*Percentage*
Complete relief of symptoms	0	0
Marked improvement	28	42
Some improvement	28	43
No improvement	2	3
Deaths	8	12
Total	66	100

Arrhythmias

Some degree of improvement in irregular pulses has been observed frequently. Many cases of auricular fibrillation were unaffected. However a fair number of patients of this type exhibited long runs of regular pulse beats, with only an occasional break into the former rhythm; a few patients appeared to lose their fibrillation entirely. One such man who regained a regular rhythm had had a known digitalis-resistant auricular fibrillation for five years. Although he was dying of decompensated rheumatic heart disease his pulse rate became regular for two days when heavy E dosage was instituted.

A female patient, aged fifty-seven, who exhibited ectopic beats, quickly responded to vitamin E and almost any ratio of extra beat to regular pulse could be induced by varying her dosage.

A few bradycardias were accelerated.

Electrocardiographic Studies

In nearly all of the cases studied, electrocardiograms were taken before therapy was begun, and at two, four or six weeks after treatment had been

instituted. Except in two active rheumatic cases no startling changes were noted. There were, however, certain slight changes in many instances: a. Two cases showing a prolonged P-R interval reverted to an interval of less than .20 seconds. b. Depressed S-T segments became less depressed or normal. c. Inverted or isoelectric T waves showed respectively less inversion or became positive. d. Three bundle branch blocks were unchanged.

One would scarcely expect marked changes to occur in such a short period of observation. It may be that changes will be seen in abnormal electrocardiograms in six months or a year's time.

Toxic Reactions

Toxic reactions are very rare and mild, as could be expected of a fat-soluble vitamin, present to some degree at least in every person's diet.

In our extensive use of vitamin E in obstetrical work in the past thirteen years, one of us (EVS), has seen six or seven examples of a generalized maculopapular, itchy rash. This disappears rapidly if vitamin E is discontinued, or often if the type of preparation is changed. There were no examples of such reaction in this cardiac series.

Some patients, notably the women, complained of nausea on the large doses employed. Two or three patients have developed diarrhea on vitamin E therapy—but this, too, was transient and responded quickly to a mild alkali.

One patient, as well as a physician, reported an elevation of a previously normal blood pressure. Perhaps this is related to improved myocardial tone. We have not observed it in our own patients.

Five cases in this series have developed rapid pulses on E-therapy. These have returned to normal with the help of small doses of digitalis, or with a cessation of E administration and then a gradual return to the larger dose.

Toxic reactions or idiosyncrasies appear to be very rare on the whole. Some of the patients have taken a daily dose of 600 to 700 mgm. of E for months, without any harmful effects appearing. One has had 1400 mgm. per day for two months, with no untoward reactions. It may be noted that large doses given to preeclamptic women at or near term (8), may be dangerous.

How Does Vitamin E Affect the Heart?

a. *It affects bloodvessels.*—This was indicated by our old biopsy studies (9), on leukoplakia vulvae, where massive E therapy seemed to be responsible for increased local circulation in the vulva, the local mobilization of degenerative material, and either the reopening of old capillaries or the proliferation of new.

The speed with which many anginal and coronary patients respond to E therapy suggests a vascular effect. Often this takes as little as four to seven days.

Stuart (10), has observed rapid improvement in three cases of intermittent claudication treated with vitamin E. Our own results in several acute cerebral accidents point in the same direction. We have seen prompt and marked improvement in the circulation in the legs of patients who had incidental varicose ulcers and varicose eczema.

One of our most striking cases was a woman of fifty-seven years of age, who had had Buerger's disease for the past eight years. In 1938 her feet and legs were treated in a glass boot. She had repeatedly been threatened since that time with gangrene of the toes of both feet. However, great care and regular Buerger exercises managed to avert frank gangrene. In the last two years there had been marked edema of both ankles, and a constant cyanosis of the feet and ankles. On June 16, 1946, she was given 200 mgm. of Ephynal per day, orally. Within three days time she complained of such severe "pricking" sensations in all her extremities that she could not sleep. This tingling persisted for two weeks, gradually becoming less annoying. By the end of the first week, large purpuric areas began to appear on her thighs, legs, arms and trunk, but were more numerous on the extremities. It was equally obvious that the edema was decreasing rapidly and that the legs and toes were returning to normal color—as even her chiropodist remarked. Sensation returned to her feet and toes. She no longer needed to sit on the floor to pick things up, but could kneel like anyone else. This change was almost complete within five weeks time.

b. *It affects the myocardium.*—This effect, of course, may be secondary to an improvement in local capillary circulation, but may also be due to a direct effect upon the cardiac muscle. Such an influence could be inferred from the pioneer work of Einarsson and Ringsted (11). The more recent observations of Steinberg (12), suggest that even fibrous tissue is affected by E; in scarred rheumatic or coronary hearts, this observation may be pertinent. Mason (13), has shown that the heart muscle has a higher concentration of vitamin E than even body fat and liver. Presumably the storage in this muscle bears some relation to its availability for function. Emmels and Mason (14), have demonstrated myocardial degeneration in the vitamin E-deficient rat, and have found that although this is also true for the monkey, vascular degeneration overshadows it in the latter species. Both types of degeneration are found in the vitamin E-deficient hamster.

The improvement in cardiac reserve in many of our patients was often noteworthy.

c. *It may influence the pace-maker of the heart.*—The effect vitamin E has upon certain disorders of conduction, such as a lengthened P-R interval, or on ectopic beats or fibrillation, while not very consistent, is enough to point in this direction. It is possible, of course, that any such effects as occur are due to changes in the fibromuscular tissues of the heart, or an improved blood supply to the specific conducting tissue, or increased myocardial tone. The

experimental background for the effect of E on nervous tissues has been supplied, of course, by Bicknell (15), Wechsler (16), and other workers.

d. *It may influence the thrombotic features of coronary disease by improving collateral circulation to the ischemic area.*—Our observations on the effect of vitamin E in controlling thrombocytopenic purpura (17), open up a relevant line of thought. Paterson (18), has postulated that coronary and cerebral thrombosis begins at the site of small subintimal hemorrhages, in the coronary or cerebral vessels respectively. Perhaps some or many of these hemorrhages are on a purpuric basis. If so, and E can control certain purpuras, it may prevent the spread of such thromboses, promote their resorption, and even prevent their recurrence.

A meager experience with acute and even months-old cerebral thrombosis, and with acute femoral thrombosis, lends support to these latter conceptions. There may even be a rapid resolution of thrombi directly due to vitamin E.

Deaths

As all patients who presented themselves for treatment, regardless of their condition, have been given vitamin E, it was inevitable that there should be deaths in this series. The details of the fatal cases are here summarized:

CASE 74 (*Angina, Hypertensive*).—Male, aged 42. Occasional cardiac pain for ten years. Continuous boring precordial pain for two years. B.P. 188/108. Blood cholesterol 383 mgm. percent. Unable to do any work. Given 600 mgm. mixed tocopherols daily. Received no benefit and still required morphine sulphate, gr. ¼ occasionally. Increased to 800 mgm. daily, but after three weeks no benefit was apparent. Blood cholesterol dropped to 225 mgm. percent. B.P. 160/120. Smithwick performed. Suffered fatal coronary thrombosis (autopsy), three days postoperatively.

CASE 55 (*Hypertensive*).—Male, aged 56. Dyspnea for one month; anorexia for one year. B.P. 220/135. Great cardiac enlargement. Ankle edema two plus. Recent hemorrhages in fundi. N.P.N. 126 mgm. percent. Given 300 mgm. mixed tocopherols daily. All signs of failure disappeared in one week. B.P. 200/120. N.P.N. 70. N.P.N. rose rapidly in next week. Heart remained compensated but edema recurred and uremic death followed quickly with N.P.N. of 220 mgm. percent. No autopsy.

CASE 57 (*Angina, Hypertensive*).—Male, aged 69. Pain and dyspnea on walking ten feet. Coronary occlusion in 1942. B.P. 150/108. Pulmonary edema. Given mixed tocopherols 500 mgm. per day. Showed some relief of pain after eight days. Died suddenly fifteen days after the treatment began. No autopsy.

CASE 48 (*Hypertensive*).—Male, aged 70. Dyspneic on walking slowly about house. B.P. 170/90. Slight cardiac enlargement. Given 400 mgm. mixed tocopherols per day. Masters step test, 8 trips, increased B.P. 20 mm. Hg. and pulse 16 beats. Two weeks later able to walk up town. Masters step test, 8 trips now raised B.P. 12 mm. Hg. and pulse 12 beats. B.P. now 182/84. One month later was warned against continued excessive activity. B.P. 130/80. Same dose of E. Died suddenly twelve days later. No autopsy.

CASE 35 (*Hypertensive*).—Male, aged 62. Dyspneic on walking twenty feet or on talking for five minutes. Ankle edema increasing the last two weeks before he was first seen. B.P. 182/125. Marked cardiac enlargement. Liver edge down three finger breadths. Controlled diabetes. Given 250 mgm. alpha tocopherol and digitalis gr. 1½ per day. Improved enough to travel around with wife, go to golf club, meet guests, and do far more walking. Dyspnea lessened. Died suddenly while at home about thirteen days later.

CASE 30 (*Hypertensive*).—Female, aged 53. Dyspneic—even on bending over. Could not walk more than across the room. Varicose ulcers on both lower legs. Dependent edema three plus. Had acute rheumatism as a child, leaving her with "leaking heart". Liver three finger breadths down. Marked cardiac enlargement. B.P. 200/110. Pulse 84 and fibrillating. Mixed tocopherols 300 mgm. daily. Salt-free diet. Two weeks later B.P. 155/115, still fibrillating. Slight ankle edema. Mixed tocopherols 375 mgm. daily. Digitalis gr. ½ daily. One week later had sudden apoplectic stroke and survived eight days.

CASE 41 (*Hypertensive*).—Female, aged 56. Dyspneic even on sitting down. Sleeps on four pillows. Paroxysmal nocturnal dyspnea the last two or three months. Cough accompanying dyspnea at night, for one month. Ankle edema two plus for the last month. Digitalized. B.P. 180/108. Pulse 100 and fibrillating. Liver three finger breadths down. Very marked cardiac enlargement. Alpha tocopherol acetate 250 mgm. daily. Died in three weeks in failure.

CASE 47 (*Hypertensive*).—Male, aged 75. Dyspneic on walking one block. Ankle edema three plus for two months. Very uncooperative. B.P. 162/110. Pulmonary edema both bases posteriorly. Heart slightly enlarged. Given mixed tocopherols 300 mgm. each day. Two weeks later the ankle edema was one plus. Dyspnea improved. B.P. 140/100. Chest clear. Given 500 mgm. mixed tocopherols daily. Three weeks later the ankle edema was four plus. Dyspnea increasing. Died in failure six weeks after commencement of E therapy.

CASE 56 (*Hypertensive*).—Male, aged 42. Seen first in extreme failure in hospital. Oxygen twenty-four hours per day. Had received digitalis, mercurials and ammonium chloride. Marked pulmonary edema, right sided pleural effusion up to second rib anteriorly, ascites, ankle edema four plus. B.P. 250/160. Fibrillating. Given only alpha tocopherol acetate 250 mgm. daily. Went home in three weeks able to walk. The ankle edema was still one plus. After one good week at home, he developed a recurrence of his old bronchial asthma which

threw him into right heart failure. B.P. 200/135. He was put on digitalis, and the Ephynal was increased to 300 mgm. per day. One month later he was markedly improved. Then he began a gradual progression of bilateral failure with death fourteen weeks after he was first seen.

General Comment

From the first we have insisted that vitamin E therapy is to be considered only as one mode of treatment of heart disease. It is very difficult, to say the least, to conceive of any therapeutic agent or regimen able to restore a heart, scarred by the ravages of rheumatic fever or coronary occlusion, to its pristine histological status or functional efficiency. It is to be hoped, however, that the wisest management may aid such a damaged organ to regain a great share of its original ability to do its duty. Our unselected series of patients includes many people in severe grades of distress and decompensation. Indeed, the proportion of these is higher than would ordinarily be encountered because of the publicity which this treatment has found. Our data errs, therefore, if anything on the pessimistic side. This is treatment, not "cure", and cannot salvage every damaged heart. It fails too often, as does digitalis, or any treatment yet proposed for any pathological condition.

It has been found that relatively heroic doses of vitamin E are required by cardiac cases. From 300 to 600 mgm. per day in divided doses, usually orally, or by injection in emergencies, seems indicated as the initial dosage. Such doses have had to be maintained for weeks to months before maximum improvement has been attained. In some patients the dosage may then be decreased to between 75 and 150 mgm. per day. In most it must be maintained indefinitely at the original level. If the cost of treatment were not such an important factor, we would leave all our patients on a dosage approximating 150 to 250 mgm. per day.

Patients already under partial control of such drugs as digitalis or aminophylline, to mention the two commonest, should be given their usual medication, at least until the E "takes hold"—perhaps much longer or continuously. There is no contraindication to their prolonged concomitant use if it is felt to be valuable. However, they will be soon found unnecessary in many patients.

Vitamin E is destroyed by ferric iron salts in *vitro* (19), and there is good reason to think the same may be true for any iron in *vivo* (20). We have insisted for years that no iron should be given to patients taking vitamin E, and failure to heed this warning will lead to poor results with E therapy.

In this series of patients we have not used other vitamins concurrently with the E, although we are well aware of and believe the evidence which indicates that these factors are adjuvants to the latter. This has been done in a deliberate effort to restrict the variables in what has been and is a difficult clinical experiment at best.

Taking the "alarm clock" off certain rash and energetic angina patients may occasionally prove prejudicial, we suspect.

Other Observers

These reports would be incomplete did we fail to mention other workers who have independently hit upon the efficacy of E in treating heart disease. Undoubtedly there are many we do not know of, but we have heard from the following: Dr. J. Cotton, Toronto, Canada; Mr. W. Kyprie, New York, N. Y.; Dr. W. W. Boyd, Spartansberg, S. C.; Dr. W. Bapty, Oshawa, Canada, Capt. E. Melton, Waukesha, Wis.; Dr. R. M. Johnson, Long Beach, Calif.; Dr. K. C. D. Hickinan, Rochester, N. Y.; Mr. Kenneth Cartwright, Webster Groves, Mo.; and Dr. J. Lenegre, Paris, France.

It is a pleasure to acknowledge their pioneer work in this field and to find that on the whole their results often substantiate our own observations.

Summary

1. The results obtained by giving large dosages of vitamin E to 126 consecutive unselected cardiac patients are here analyzed.

2. Most anginal patients experience great relief promptly.

3. Many rheumatic patients, acute or chronic, are greatly helped, although, of course, one can expect little amelioration of valvular lesions.

4. Hypertensive hearts are also benefitted, and occasionally the hypertension itself is decreased appreciably.

5. Some arrhythmias are regulated.

6. It is too early to say what electrocardiographic changes may be anticipated. However, what changes have been seen are toward improvement, and are occasionally quite obvious.

7. Toxic reactions are mild and rare.

8. The mode of action of E on the damaged heart is discussed at length.

9. Nine deaths are discussed in detail.

10. Vitamin E is a mode of treatment, not a "cure".

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They also wish to emphasize the role Mr. Floyd R. Skelton has played in these purpura-heart researches. It would be hard to exaggerate his contribution.

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TWO DEATHS DUE TO BORIC ACID

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In 1928, one of the authors reported the death of six babies in a Chicago Hospital, who had died as the result of ingesting a solution of boric acid (1). This was the first report in medical literature of the distribution of boric acid in the human tissues after a fatal poisoning. A similar accident occurred in a New London, Connecticut Hospital in 1945, in which twenty newborn infants were poisoned and five died as the result of the poisoning. This unfortunate occurrence resulted from the accidental issuance of boric acid powder in a jar labelled "Dextrose". The boric acid was inadvertently used instead of dextrose in the preparation of an isotonic solution of sodium chloride for prelacteal feeding.

Brose (2), as early as 1883, reported a death following the external use of powdered boric acid on a chronic leg ulcer. Molodenkow (3), and Schurzer (4), quoted by Tillmann in 1899, reported on deaths which were caused from a saturated solution of boric acid which had been used as an irrigating fluid into closed cavities. In 1903 Best (5), noted the death of an adult male who had had six ounces of powdered boric acid placed in a wound following an excision of inguinal lymph nodes. Dopfer (6), in 1905 reported a case of intoxication in a two year old child who, for four days had been treated for a burn in the axillary region with a ten percent boric acid ointment. On the second day, the child developed a red rash on the back and elbows, after which the rash spread over the entire body. A moribund state existed and the patient died in thirty minutes. In the same year Shoemaker (7), also reported a case of boric acid poisoning. In 1907 McWalters (8), reported a case of borax poisoning in a two month old baby. Another death was reported the same year, in which a girl died within twenty-four hours after taking an unknown amount of boric acid (9). Rubin and Donner (10), in 1909 called attention to the rapid absorption of boric acid from denuded areas, such as burns. Sanders (11), Bazin (12), Brown and his colleagues (13), and Harley (14), found poisoning occurring as a result of boric acid enemas. Adler (15), in 1914 reported a case of boric acid poisoning and in 1915, Wilson (16), reported a case of accidental ingestion of a solution of boric acid. The following year Maguire (17), reported a case where boric acid fomentations were used on a traumatic wound of the leg with fatal results. Forsythe (18), in 1919 reported a case of boric acid poisoning, and a case was reported by Potter (19), in 1921, where a painter aged sixty-six, took one and one-half ounces of pure borax which had been stored in a package labelled saline laxative; he died within three hours after the ingestion of the poison. Schwyzer (20), in 1921 reported a death from one-half ounce of boric acid used as an abortifacient. In 1928 Birch (21), reported the death of an eighteen day old infant from one dose of a mixture of 1.5 drams of honey and borax. Aikman (22), in 1930 described poisoning in infants who suckled from nipples cleansed with a saturated solution of boric acid. Cushing and Schwyzer, quoted by Gissel (23), in 1933, reported several deaths from boric acid, one from a subcutaneous injection of one liter of a four percent solution of boric acid; in the same year he reported another death from the use of a boric acid ointment which was applied, on bandages, to the burned areas of the skin (23). McIntyre and Burke (24), in 1937 reported a case of recovery after an intravenous injection of 600 cc. of a 2.5 percent solution of boric acid. Gonzales, Vance and Helperin (25), reported a patchy ex-

follation of the epidermis, in a case of poisoning with boric acid, which was accidentally administered by subcutaneous injection. The death of the baby occurred after two days. In 1940, Pensold and other workers (26), reported poisonings due to the introduction of a solution of boric acid into the bladder. In 1941 Peyton and Green (27), reported a case of recovery after a single subcutaneous dose of 28 grams of boric acid. Savariaud (28), recommended that wounds never be dusted with powdered boric acid. His suggestion came as the result of a study of a case of intoxication in an eight year old child who had been dusted with boric acid powder, and as a result was burned on the abdomen and thighs. In 1943, Ross and Conway (29), reported a death of a three year old child, due to the use of a saturated solution of boric acid to irrigate an empyema cavity. In the Boston Cocoanut Grove (30), disaster in 1943, Cope (31), one of the physicians active in the care of the victims, reported that poisoning was possible from a too rapid absorption of the boric acid. He found that in twenty patients, urinalysis revealed that a maximum of 2.0 gm. of boric acid might be excreted in the first twenty-four hours by patients with extensive burns. As high as 2.5 gm. were excreted in twenty-four hours in patients where a saturated solution of boric acid was used to irrigate granulating wounds. In 1945, Watson (32), stated that there are unreported instances of death from the use of boric acid in the stomach in gastroscopy; he also reported a death following the application of 60 to 100 grams of boric acid ointment.

The use of boric acid and its salts in the medical profession and some of the lay industries, have made them commonplace substances. Boric acid is employed in surgery as a dusting powder, a saturated (4 percent) aqueous solution, a boroglycerite and in collyria (1 to 2 percent of boric acid or sodium). The drug, Acidum Boricum, U.S.P., is slowly soluble in water (1:18); soluble in alcohol (1:18); freely soluble in glycerine (1:4); soluble in boiling water (1:4), and soluble in boiling alcohol (1:6). The dose is 0.5 gm., 8 grains, U.S.P. Locally it is used in lotions, gargles, etc., 2 to 4 percent. There are official preparations, such as, Glyceritum Boroglycerini, U.S.P., Unguentum Acidi Borici, U.S.P. and Liquor Antisepticus, N.F. Sodii Boras, U.S.P., is soluble in water (1:16); very soluble in glycerine (1:1), and practically insoluble in alcohol. As both of these substances may be found in roach powders, every state should see that these substances are labelled as a poison.

The potential danger of boric acid as a food preservative became apparent from the work of Wiley (33), in 1904.

Pfeiffer and his associates (34), as a result of their research upon the toxicological examinations of boric acid, came to the following conclusions:

1. Boric acid is absorbed in toxic quantities from ointment applied to burned areas or to wounds involving loss or damage to large areas of skin.

2. When a 5 percent boric acid solution is used to irrigate cavities, most of the boric acid is absorbed by the tissue.

3. The boron occurs in both the white and gray matter of all the parts of the central nervous system and the peripheral nerves. The spinal cord and gray matter of the cerebrum contains the highest amounts.

4. The liver is only slightly affected histologically by chronic poisoning. The kidney shows tubular degeneration, while the brain and spinal cord show neuronophagia and hyperchromatosis. The skin indicates polymorphonuclear infiltration and vascular engorgement.

5. As little as one third of the median lethal dose, or treatment of a burn involving only 4 percent of the surface area of the body with U.S.P. 10 percent ointment, will produce pathological changes in the central nervous system.

6. When repeated daily doses, as small as 200 mg. per kilogram, are given subcutaneously, fourteen to eighteen days are required before the urinary excretion reaches a plateau. This, together with the fact that boric acid can still be found in the brain of animals four days after the discontinuation of a series of doses, indicates cumulative action.

7. The data does not provide any evidence of a depressant action of boric acid on the blood forming organs.

8. A definite increase in the urinary phosphorous excretion occurs after intravenous doses of boric acid.

9. Death is due to a shock-like syndrome if large doses are given. If moderate dosage is given over a period of several days, death may result from inanition due to convulsive tremors and meningismus. When intravenous fluids are given to prevent early deaths, some animals develop anuria at 2.5 times the untreated median lethal dose.

10. Polyhydroxyl organic compounds such as mannitol, glucose or glycerol are not antidotal to boric acid.

Case Reports

On September 27, 1944, two babies, one ten days old and the other three days old, were given their usual bottle and within an hour were found retching, vomiting and had diarrhea. The attending physicians who were called, were baffled by the symptoms and were unable to save the babies. Both infants died within four hours of their last feeding.

Autopsies were performed on both infants the following day; the examinations were performed simultaneously in the presence of Dr. Wm. D. McNally. The liver, kidney, stomach and portions of the small and large intestines from each baby, were removed for toxicological examination. The food, water and milk which constituted the general hospital diet for all babies were also submitted for analysis.

Baby R., (autopsied by Dr. G. Rukstinat) was ten days old and weighed 7 pounds 5½ ounces the day before death. This baby was embalmed before the autopsy was performed. The gross findings at

the time of the autopsy were: "there was a zone of marked hyperemia on the lesser curvature of the stomach; the lining of the stomach was hyperemic and had a faint bluish cast. The lining of the urinary bladder was normally rugate and near the trigone was slightly hyperemic. The lymph glands of the mesentery were distinct and as much as 7 mm. long; they were hyperemic and speckled with hemorrhages. On the lining of the large bowel, there was some faintly yellow material with green patches which had the consistency of soft curdled milk. Similar material was present in the small bowel. The material in the upper part of the small bowel was pink in the first part of the jejunum and semiliquid; it assumed the yellow color farther down at about the middle of the jejunum. There was a distinct enlargement of the lymph follicles of the bowel, and in several places they were markedly hyperemic and there were occasional superficial ulcerations. In the large bowel the solitary lymph follicles were enlarged; close to the rectum was a small hemorrhage."

Histology.—In three sections of the lungs were observed intense hyperemia of the alveolar septa; partial unexpansion of the lungs; hemorrhages into the alveoli and beneath the pleura, and congestion of the veins. In the small intestine was observed marked hyperemia of the lining, with small hemorrhages at the tips of the circular folds and a necrosis of the superficial parts, so that a few pieces of glandular tissues were free in the lumen. In sections of the stomach, there were slight lymphocytic infiltration, as well as a few small hemorrhages in the rugae. In a section of the adrenal gland, there was marked hyperemia of the medulla and some pyknosis of the cortical cells. In a section of the myocardium, there was a slight, cloudy swelling with indistinctness of the striations. In a section of the liver, there was observed a marked cloudy swelling; in some places an obliteration of the sinusoids, granular cytoplasm of the hepatic cells and sparse blood islands. In a section of the spleen, the pulp was congested with many erythrocytes, the follicles were primary in type and there was a sparse scattering of neutrophiles in the pulp.

Baby J., (autopsied by Dr. H. Halley) was three days old and weighed 9 pounds, 15½ ounces at birth; this baby was unembalmed at the time of autopsy. Gross findings at the time of autopsy were: "the stomach was dilated with gas and about 5 cc. of a yellow and grayish-white mucoid curdy content, all of which together with the stomach, was given to the toxicologist for analysis. The lining of the stomach was a diffuse, reddish-gray from the hyperemia, but was intact and normally folded. On the trigone of the urinary bladder, extending on to the base, was a region of diffuse redness, as well as a mild edema of the lining which was suggestive of hemorrhage, the rest of the lining was grayish-white and unchanged. The small intestines were collapsed and the chyme was sparse and a dull yellow-tan. The lining was intact and had a patchy, mild redness from hyperemia, more in the dependent loops. The colon was up to one cm. in diameter and filled with moderately abundant bright yellow soft material. The lining in general was a dull grayish white, with one small region of redness suggestive of hemorrhage in the sigmoid portion. The lining of the rectum was red from congestion. The kidneys were normally formed with foetal lobulation markings, capsules stripped readily from the otherwise smooth surfaces, and on section, the cortical markings were distinct, with a slight pallor as compared with the pyramids which were red from congestion. The tips of some of the pyramids were red as if from hemorrhage. The lungs were normally formed aerated throughout, but least in the dependent portions which were more red from congestion and partial unexpansion than the anterior portions. No petechiae were observed. The pleurae were glistening and transparent. The thymus was of average size, soft and red from mild congestion, bilobed without any evidence of the compression of the adjacent structures and was estimated to weigh about 15 grams. The pericardium was of a normal size and its fluid and surfaces were unchanged. No change of the heart was observed. The foramen ovale was obliquely patent but functionally closed. The ductus arteriosis was patent. The heart chambers were without evidence of dilatation or hypertrophy and the valves were normally formed and uncongested. The liver was of an average size with transparent capsule; on section, it was dark red from congestion and the lobular markings were indistinct. The adrenal cortical lipoid was pale yellow, and the medullary portions red and wet from congestion. The scalp was unchanged. The brain was of average size and of normal development for this age and head. The transparent leptomeninges were moderately congested. The brain was of the usual softness without bile staining of the lenticular nuclei and without evidence of a significant focal change."

Histology.—In a section of the colon, slight edema was observed, as well as small hemorrhages in the lining, which here and there was sloughed partly from the postmortem change. In a section of the small intestine, there were chiefly postmortem changes of the lining. In a section of the stomach, the lining was intact and there was a mild congestion of the submucosa. In two pieces of the lung tissue, was observed marked congestion and hyperemia of the alveolar septa, regions of unexpanded alveoli suggestive of aspiration of the meconium. In two pieces of kidney, there was observed cloudy swelling of the tubules, hyperemia of the glomerular tufts and scattered congestion with a hemorrhage in the pyramids. In a piece of liver, there was a mild cloudy swelling, engorgement of the sinusoids with erythrocytes, and sparsely scattered blood islands. In a section of the spleen, there was chiefly, marked congestion of the pulp; the follicles were primary in type. In a section of the pancreas, there were observed postmortem changes and a stroma more fibrous than usual, but without an inflammatory exudate. In two pieces of the adrenal

gland, there was noted congestion, chiefly of the medulla with some medullary hemorrhage and a cloudy swelling of the cortical cells. In a section of the thymus, there was no change observed. In the mesentric lymph nodes, hyperemia was noted. In sections of the esophagus, tongue, bone marrow from the spine and ribs, and cervix of the uterus, there were no significant changes. In a section of the myocardium, there was a cloudy swelling of the muscle fibers. A stab culture of the brain made with a pipette, transferred to a blood agar slant and subcultured on a blood agar plate, was productive of no growth. Cultural examination contributed no significant evidence.

A chemical examination of the liver, kidney, heart and bowel failed to show the presence of heavy metals, fluorides, alkaloids, or barbiturates. In the absence of these chemicals, a search was then made of the organs for other likely contaminants, and boric acid was found. The following table gives the amount of boric acid found:

	Baby J.	Baby R.
Bowel	.01 percent	.056 percent
Kidney	.10 percent	.13 percent (plus heart)
Liver	.028 percent	.001 percent

The proprietary baby food and milk used in preparing the formula was then examined chemically and found to be negative for heavy metals, boric acid and alkaloids. The Gutzeit test for arsenic was negative. Fluorides were present in the food to the extent of 0.3 parts per million. A sample of the water in a nursing bottle, said to have been a portion of the water given to all the babies, was negative for fluorides and boric acid. A small amount of residue, weighing less than a gram, left on one diaper was examined and found to be negative for boric acid. A nursing bottle with a nipple was examined for the presence of fluoride and was found to be negative. The milk in this bottle contained 0.007 percent boric acid. This bottle evidently had a stronger solution of boric acid in it previously, and the small amount of boric acid was possibly a residue from the boric acid water accidentally put into the bottle; then the bottle was used for the milk formula. A bottle of a solution of boric acid used for cleansing the nipples was found in the nursery.

The food and organs were examined by two chemists. The first chemist used the confirmatory test of the *Official and Tentative Methods of Analysis* of the Association of Official Agricultural Chemists, page 459, 1940 edition, and the Colormetric Method Using Alizarin S as described by Dickenson (35). The second chemist used the Official Quantitative Method, page 460 in the *Official and Tentative Methods of Analysis*. The results of the three methods were comparable and are in the range of the lower amounts found in the six babies previously reported.

From the chemical and pathological examinations, the authors gave their opinion that the two babies died of boric acid poisoning.

Barnum (36), reported that in the New London occurrence, one infant survived longer than the others and a chemical analysis showed that all the boric acid had been excreted before death.

Symptoms of Poisoning

From the cases of poisoning by boric acid that we have seen and from the reading of the literature, we have observed that the most striking symptom was that of a profound irritation of the central nervous system. Some of the patients appeared to have a severe meningitis with a retraction of the head, opisthotonos, double Kernig sign, Babinski reflex and rather evident spastic deviation of the eyes. The skin may develop an erythematous rash, especially if the patient lives for more than twenty hours after the ingestion of the poison. Vomiting and diarrhea were also constant symptoms. The temperature remained practically normal. The urine was scanty with very little albumin.

Treatment

Every effort should be made to reduce the concentration of the boric acid in the bloodstream. A mixture of an isotonic solution of sodium chloride and 5 percent dextrose solutions should be given by hypodermoclysis. Every effort should be made to increase the elimination of the kidney and bowels, as boric acid is found in the urine and stool. For the erythemia of the skin, zinc oxide ointment can be used. For collapse, inject desoxyephederine.

Toxicity

Negri (37), found the lethal dose of boric acid in rabbits to be 0.043 gm. per kilogram. This differs materially from the report of Buzza and Cerratola (38), for they stated the toxic dose of boric acid to be 4 gm. per kilogram in rabbits, and that their animals died within twelve to twenty-four hours, from central paralysis and gastrointestinal irritation. They report that Gaucher found the toxic dose in guinea pigs to be 1 gm. per kilogram. Pfeiffer, Hallman and Gersh (34), found that with rats, mice, guinea pigs and dogs, the lethal dose varies from 1.2 to 3.45 gm. per kilogram. Fifty percent of his dogs receiving 2.0 gm. per kilogram, died within forty-eight hours. He found the guinea pig was the most susceptible of all the animals. From our work in 1928, we believe that infants are poisoned by a much lesser quantity of boric acid than was indicated from animal experiments. In 1945, a three year old child was admitted to Ward 6 of the Cook County Hospital, after taking approximately 2 grams of powdered boric acid. The stomach washings after one hour of the ingestion of the poison, gave a strong reaction for boric acid. The child seen three days later, was very nervous, but otherwise had recovered from the poisoning.

Summary

Boric acid has been regarded as a nontoxic antiseptic because of its mildness, practically nonirritating, when used in mouth washes and collyrium,

but when it is absorbed by the bloodstream, it adheres to the definition of a poison.

The use of boric acid should be prohibited in the maternity wards of all hospitals and when sold to the public, the container should be labelled "POISON", in order to make the consumer more conscious of the fact that he is dealing with a poison and must consequently be more cautious in its use. All insecticides containing borates or boric acid should bear "POISON" labels.

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CHARCOALCOMPOUNDS IN THE TREATMENT OF SKIN DISORDERS*

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The tendency to attribute skin eruptions to external factors has been prevalent among physicians for some time. Newer investigations make it increasingly apparent that a great many dermatoses may be closely associated with diseases of the internal organs, with nutritional deficiencies or metabolic disturbances. The possibility of this relationship should never be overlooked, and the prompt institution of internal medication as a therapeutic measure, supplementary to the topical applications, may help to shorten the course of recalcitrant dermatoses.

Functional disturbances of the gastrointestinal tract are among the internal processes most frequently capable of producing skin manifestations. They may be confined to the stomach, to the small intestines, to the colon, or to the entire intestines. They may be initiated by faulty food or toxic food substances; chronic constipation or food allergy may be additional provoking factors. Furthermore, excessive bacterial growth or pathologic flora may increase the tendency of the intestinal mucosa to inflammatory changes and to abnormal fermentative or putrefactive processes. Continuous production of toxins and their consequent absorption into the circulation may finally lead to irritation of the skin.

In practice, it may be difficult to ascertain the exact nature of the responsible noxious agent, or to determine the pathogenic role of the gastrointestinal dysfunction in the origin of a particular dermatosis. Suggestive evidence of the inter-relationship may be gained by the quick response of the skin disorder to the treatment of the alimentary tract. A variety of therapeutic measures exists for bringing about this effect. Experience has shown that simple methods, such as the regulation of the diet or the oral administration of detoxifying substances give excellent and lasting results.

The author has, for many years, used the compound Nucarpon with much benefit to skin conditions where disorders of the intestinal tract were present or were suspected as contributing factors. The preparation is made according to the formula of Dr. Pauli, and contains extract of rhubarb, pow-

dered senna, precipitated sulphur, oil of peppermint and oil of fennel, in a highly active vegetable charcoal base. Charcoal acts as an absorbent and antacid in the stomach. It removes putrefactive by-products, adsorbs bacteria and fermentative gases in the intestinal tract. Vegetable charcoal is superior to animal charcoal, because its binding power towards gases and toxins is a firm one, but it shows a more reversible attachment to normal ferments such as pepsin, trypsin, and lipase. The peristalsis of the intestines is increased by the incorporation of extract of rhubarb, powdered senna, precipitated sulphur, and by the addition of the volatile oils of mint and fennel. Drastic cathartic action is avoided by the use of small quantities of the compounds and their mutual buffer effect.

In the last three years the therapeutic effect of Nucarpon was studied in sixty-one cases of diversified dermatoses and the course of the disease was followed up. Primarily it was used in all skin eruptions of the urticarial type, such as acute and chronic hives, giant urticaria, lichen urticatus and localized and generalized pruritus. This group comprised twenty-four cases. Scratch tests and intracutaneous tests are not reliable and are generally inconclusive in urticarial rashes. Therefore an attempt was made to find the responsible allergen by means of an elimination diet. After the offending substance was identified, a strict diet was prescribed together with two tablets of Nucarpon after each meal. By these therapeutic measures it was possible to improve or cure in a short time, most cases of hives or generalized pruritus in which urticariogenic substances in the intestines played a prominent part in causing the skin allergy. However, even in those patients in whom the connection between the skin disease and the intestinal dysfunction was not apparent from the beginning, or was hard to prove, the tentative use of the adsorbent had an excellent effect in controlling the symptoms.

The newly introduced therapy using antihistamine compounds is of limited value for urticarial dermatoses. These compounds have many shortcomings; they exert temporary palliative action but the symptoms tend to recur if the medication is interrupted. This is especially evident in cases of chronic hives. Besides, undesirable side-effects have been encountered in the form of general nervousness, dizziness, extreme fatigue, sleepiness, and even severe syncope. Therefore, the use of the antihistamine compounds has been restricted to the acute forms of hives, especially to the serum sickness type of reaction to penicillin. In all other types of urticaria and also, sometimes, in pruritus of undetermined origin, gratifying results were obtained with the combination of the elimination diet and the administration of Nucarpon. This completely harmless medication also seems preferable for small children with symptoms of lichen urticatus, strophulus, or prurigo mitis. The prompt response of a two year old child afflicted with lichen urticatus to a few tablets of Nucarpon was remarkable. The urticarial papules and wheals, widespread over the entire surface of the body, and severe attacks of itching subsided in a short time. There was no subsequent recrudescence.

Later, the author tried this oral therapy in generalized neurodermatitis and in chronic lichen simplex. These diseases are therapeutic problems for the dermatologist. They are generally interpreted as allergic skin manifestations on a constitutional basis and may run in families in which hay fever, asthma or hives frequently occur. They may be refractory to any kind of local treatment and their protracted course may be only slightly changed by the elimination of the responsible allergens, which usually vary from one year to the next. There is also a limit to the use of repeated applications of roentgen rays over large areas of the body. After careful general examination of several cases of neurodermatitis, secretory disturbances of the stomach in the form of hypo- or hyperacidity were detected. In nine cases hyperacidity was prevalent. This disorder was treated by diet and by oral administration of Nucarpon. After a prolonged period of time it was apparent that a strict diet, supplemented by Nucarpon, not only reversed the hyperacidity to normal, but also helped to relieve the generalized pruritus and to diminish the thickening and lichenification of the skin. Two more severe cases with diffuse leathery changes in the skin and a history of repeated roentgen ray exposure in childhood were improved by additional fever therapy with typhoid fever vaccine.

Also included in the investigations were twenty-one cases of acne vulgaris and five cases of acne rosacea. Several factors have to be taken into consideration in determining the cause of acne vulgaris. Endocrine, allergic, nutritional and gastrointestinal disturbances may be responsible. In many cases of acne vulgaris, a complete medical examination revealed abnormal putrefactive processes in the intestines, colitis, or constipation. By the appropriate diet therapy and by the correction of the pathologic intestinal conditions with the aid of the detoxifying agent, the overactivity of the sebaceous glands and the tendency to papule and pustule formation was corrected. In treating acne vulgaris of the face, the care of the concomitant seborrhea of the scalp was never neglected. In three cases, it was difficult to stop severe repeated outbreaks. A secondary anemia in two patients and a hypothyroid condition in one patient were found to be responsible for these recurrences. In two other cases there were observed deep-seated pus-filled cysts, or purplish undermined fluctuating plaques with tiny openings discharging seropurulent fluid. These cases belong to the group of cystic acne or acne conglobata. Local treatment with roentgen rays, a strict diet plus Nucarpon, and intramuscular injections of penicillin in oil and beeswax helped to clear this variety of acne.

Acne rosacea is a separate entity, not connected with acne vulgaris. It is more common in women, usually after the age of 30, and is often caused by a disturbed equilibrium of the endocrine glands.

Secretory anomalies of the stomach may be present, mostly in the form of hypoacidity. In five of the cases, hyperacidity was predominant. By the oral administration of Nucarpon, the outbreak of the resistant hard papular lesions and the formation of teleangiectasis on the face were inhibited. The adherence to a bland diet and the avoidance of starches and condiments was stressed. Any kind of hot drink was prohibited; alcohol, coffee and tea were restricted. In this way the chronic congestion of the flush areas of the face were improved considerably.

Finally, the charcoal compound was tried in a case of chronic torpid superficial ulcerative lesions on the shoulder, closely connected with idiopathic ulcerative colitis. It was also prescribed in a case of recurrent aphthous stomatitis, when irregularities of the gastrointestinal tract could be assumed. The time of observation has been too short to establish the definite value of this medication in these two cases, but there is no doubt that symptomatic improvement, to a certain degree, has been achieved by Nucarpon.

Summary

In summary it may be said that Nucarpon is an excellent detoxifying substance with a wide range of uses in dermatology. Due to the favorable combination of adsorbent, analeptic, carminative, and gentle laxative properties, Nucarpon is especially qualified for the treatment of cutaneous disorders connected with gastrointestinal dysfunction or intestinal auto-intoxication. As a simple harmless therapeutic measure supplementing the usual local medication Nucarpon gives satisfactory results in the treatment of diversified recalcitrant dermatoses. It may be regarded as a dependably helpful agent in the therapeutic management of urticarial rashes, localized and generalized pruritus, strophulus, neurodermatitis, acne vulgaris and acne rosacea. Because of the chronicity of some of these conditions, it is highly desirable to produce symptomatic relief with a minimum of hazard and inconvenience for the patient.

*Nucarpon used in this study was supplied by the Standard Pharmaceutical Company, Inc., New York City.

MORE RECENT DEVELOPMENTS IN HAY FEVER THERAPY

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Some sage observer once said "No great discovery was ever made along the beaten path". This is true in scientific studies as well as in other paths of advancement. It is the "undoctored incident that actually occurred", which shocks the credulity of the one track students, to which the author desires to call the reader's attention in discussing respiratory allergy. The factual data concerning the causes of hay fever, bronchial asthma, sinus allergy, allergic migraine, angioneurotic edema and allergic conjunctivitis, are well understood by all students of the subject of allergy. The beaten path is along the line of therapy which is now a generation old, and all the popular forms of therapy are right along that beaten path which some student of Hahnemann made popular some thirty-five years ago. The homeopathic theory is that similars cure similars. Our allergists have found no other method of combatting hay fever, bronchial asthma and other manifestations of respiratory allergy, than to use the means which were introduced about 1910 and which have been elaborated and applied with certain refinements but with little effect, either in the degree of relief or in the duration of abatement of symptoms.

Recently a book was published which admonished us to be familiar with hay fever. This book gives many interesting bits of information but leaves us without much hope of relief that would satisfy the sufferers. Statistics on the incidence of allergic reactions, the use of filters and escape through travel, are still regarded as the only certain means of avoiding an attack at the peak of the pollenation period of the different allergens. While these means are no longer recognized as good practice in the disorders of typhoid, smallpox, typhus, diphtheria and similar diseases, these diseases were uncontrolled in the years of less medical science, but with the advance in knowledge they have become minor epidemics; until in the armed forces they were reduced to a minimum. For example, many physicians have never seen a case of smallpox, while our ancestors dealt with it every year. These diseases really are at the vanishing point. Hay fever is as prevalent as smallpox formerly was, and is even more annoying to the sufferer. One writer in the *New York Times* said recently that medical science has not done much in allergy, but something *ought* to be done about it.

The discovery which did not occur along the beaten path, is not in the etiology of hay fever, but in the means for its recovery. This is not away from the cause, it is in fact a direct attack against the disorder instead of indirect, as is now popular. There are four "shock organs" found in the mucous membranes of respiratory allergy, to wit: the eyes, the sinuses, the nasal membranes, and the bronchial tubes. The new conception of effective combat is

to reverse the gross histopathology of the action of these disorders. The theory being, that if by certain processes, the disease attacks the patient directly in the conjunctivae, then reverse the processes and bring about a cessation of symptoms. If the structures in the nose swell and copious discharge accompanies the swelling and hypersensitivity induces itching, stinging and burning in the reaction against the presence of allergens, then reverse these processes by shrinking the intumescent tissues (this is being done now by drugs which act only briefly), drying the excess secretions, (this is accomplished by the astringents used), and reducing the hypersensitivity, (this also is achieved by analgesics), and if these agents were of a lasting duration, if they did not reverse their action after a brief period of time, the object sought would be found. However, such an agent or combination of drugs has not yet been accepted by the average pharmaceutical house, nor has its existence been proclaimed by popular scientific associations. The beaten path does not afford opportunity for such discovery; nor is our discovery on this path. We must make a radical departure into different fields of study to find agents which produce the same shrinkage, the same drying of discharges, the same desensitizing effects, but even these would be of little merit if they failed to maintain their astringent effect, their drying power and their complete desensitizing action over long periods of time.

A combination of properties containing the necessary elements was worked out and incorporated in a formula which was submitted to the proper persons in one university for investigation of its pharmacological action, to another university for the investigation of its chemical properties as pH, Sp.Gr. stability of the solutions, adaptability to use on ciliated nasal membranes and reaction phases at each application. It was submitted to three universities for investigation as to its clinical action, its thoroughness of relief, its safety in actual use, its merit as a relief measure and its duration of complete relief. After one such investigator had used it ten years, and two others four years, in different institutions and climates, all under rigid controls, the respective reports agree on all major points:

a. This product is gradual in its therapeutic action. Relief commences within a few weeks. Complete immunity against pollens and other allergens takes place within about three months.

b. It is safe to prescribe for office or home use.

c. It shrinks the swollen tissues gradually, over a period of several weeks.

d. It decreases the discharge to normal.

e. It reduces the hypersensitivity, of whatever degree to normal, in equal pace with the tissue shrinkage.

f. These effects have lasted over a period of years without recurrences.

No scientific person will promise lifetime freedom from symptoms, but when the relief lasts, without recurrence, for almost a score of years and the structures and functions, in the same environment and occupation, still appear to be normal, it is thought that the effects may be permanent.

This is the manner in which the new therapy or formula and technique, has given relief to persons of all ages, of all occupations, from all classes of air borne allergens. This is the direct method of attack against the former reactions by the shock organs. There have been no violent reactions in patients who were prescribed mass amounts of this substance; not even the sensation of tickling in the nose, throat, bronchi or eyes. Records of older cases are constantly revised to make sure that if recurrences are occasioned, we may place them on the side of failures. Frequently a physician asks for the percentage of failures. There are no cases of failure unless the case has nasal polypi which the patient neglects to have removed. The entire nasal mucous membrane *must* be bathed each time the application is administered, in order to heal all parts of the affected zone. Nasal polypi are not frequent, but the author has seen two cases within the last two years.

Deflected septi are hindrances to the relief of hypersensitivity of the shock organ. Broken bones obstructing the aeration of the sinuses, impede progress in clearing sinus allergy, all these obstructions should receive proper surgical attention before the local application of the product is attempted. Aside from these obstructions there have been no failures with patients who faithfully carried out the technique required in all these types of cases. Any failure which occurred is attributable to careless handling of the case or to the failure to use the applications regularly, as directed.

Patients from a few months of age to eighty-one years of age, have been treated by the product, Agcuzin*, with the same successful effects in all ages.

Case Histories

Case I.—Male, aged eighty-one. Asthmatic. One knife-blade shaped tampon, saturated in one of the stronger dilutions of Agcuzin compound, placed high up and back in the nose, without a local anesthetic, gave relief of perceptible degree within a few minutes and complete ease of breathing within an hour. This case had become adrenalin fast. The Agcuzin pack broke the mechanism of the dyspnea and he spat large amounts of bronchial mucus for several hours.

Case II.—A packing house laborer, aged twenty-seven, had contracted hay fever and bronchial asthma following the work of carrying loads from and to a cold storage room for a few months. This patient revealed changes in the color of his nasal mucous membranes of a violescent tint and the turbinates were enlarged. Treatment of the nasal cavity over a period of eight weeks, gave him relief which has not ceased during the last three years. The nose at present has the appearance of a normal structure and the function is normal.

Case III.—A child, aged five, who had suffered croup as an infant, revealed a nasal obstruction and

excess nasal discharge of the seromucous type. Her condition was worse at night. The patient was given graduated doses of Agcuzin once daily, by means of a small syringe which was placed in the inverted nose. The condition began to improve within two weeks and the recovery was complete within ninety days. The nasal obstruction is now cleared and the breathing easy.

CASE IV.—A child, aged twelve, had never breathed through the nose. Anosmia was complete. The patient was given a nasal douche daily for ninety days, with the result that the intumescence of the nasal structures disappeared and nasal breathing began; the sense of smell was apparently fully restored. Eight years later, the recovery remains complete.

CASE V.—A housewife, aged thirty, had a perennial nasal discharge, closure of the passages and frequent sneezing. This patient suffered frequent acute attacks of what her physician called "head colds", but there was little relief from the medical means used. Three months of home applications of Agcuzin opened the nose, cleared the discharge and removed the tickling in the nasal roof. After sixteen years she states that there has been no return of the subjective symptoms. Inspection shows no objective changes toward recurrence.

CASE VI.—A market gardener, or vegetable grower, had had acute conjunctivitis, hay fever and bronchial asthmatic attacks during dust storms. Under the direction of his physician, he used Agcuzin for three months and found that working with the vegetables, which has previously caused many attacks, no longer brought about the attacks, and that dust storms brought about no reactions. This man lives in the dust belt of the Southwest and this relief is of great importance to him, since he is no longer disturbed by growing plants or the dust and sand which frequently are severe enough to limit visability.

CASE VII.—This woman lives in Florida and suffered from hay fever, asthma and angioneurotic edema each spring and obtained no relief until the late autumn. Due to the fact that there is no frost in the latitude in which she resides, she suffered a protracted allergy season each year. Since she could not visit the clinic, she was examined by another physician to differentiate between cardiac or renal dyspnea, which are really not asthma but are respiratory difficulties due to the faulty action of another viscus; her nose was examined for polypi. All hindrances being absent, the clinic sent her a full set of solutions and instruments for their proper administration. Two years later she reported that within two months after beginning the applications there was a complete cessation of all symptoms. She continued to use the solutions until they were consumed and for the past two years has felt as she expressed it, "like a well woman".

Summary

This is the manner in which the average case recovers and the author might cite many other cases of hay fever, bronchial asthma, migraine, angioneurotic edema, conjunctivitis and sinusitis, which have cleared up under the proper use of this direct method of attacking the allergic storm zones; the results are uniformly the same.

There is no longer any merit in skin tests or determinations of the offending allergen, this therapy clears up all of the classes of causation with equal completeness.

*The solutions we use and which was renamed AGCUZIN COMPOUNDS by the Federal Security Agency when allowing passage through the Interstate Commerce, but which had previously been named METAPOLLEN and so accepted when submitted for protection in the U. S. Patent Office, is a combination of cupric and zinc sulphates and a galvano colloidal silver. The description as given in the patent application specifications is "Anhydrous C.P. cupric sulphate, anhydrous zinc sulphate (C.P.) combined with propenyl hydroxide of anhydrous silver nitrate (C.P.) in such strengths and proportions as may be adapted to application to the human mucous membranes". (This wording is that suggested by an official examiner in the Patent Office.)

The graduated dosage was supplied by efforts in the School of Chemistry of Northwestern University, the pharmacological action was the work of the Colorado State University, Department of Pharmacology, and the clinical action and reactions in its application to respiratory allergy in its many phases, was the work in Emory University, Tulane University and Arkansas State University.

1004 West Sixth Avenue.

Six Antimalarials

Dr. Justus B. Rice, vice president in charge of medical research of the Winthrop Chemical Company, Inc., in a scientific paper presented before the recent convention of the Insular Medical Society in San Juan, Puerto Rico, reviewed the clinical experience with six drugs now available for the attack on malaria. The six drugs listed by Dr. Rice are aralen, atabrine, quinine, paludrine, pentaquine and plasmochin.

Aralen was described by Dr. Rice as the drug of choice of all the available drugs. It definitely cures falciparum malaria, which is often fatal.

Dr. Rice said that aralen, atabrine, quinine and paludrine all successfully attack the erythrocytic cycle of the disease, responsible for the distressing symptoms of all forms of malaria. He added that plasmochin, of chief interest to public health officials, does not cure, but attacks the gametocytic cycle of the disease, limiting its spread by preventing mosquitoes from becoming infected.

He also added that, while clinical research has demonstrated that the exoerythrocytic cycle of malaria, responsible for relapses in the vivax form of the disease is vulnerable to attack, pentaquine, the drug which has been tested, has been found too dangerous for general use.

Pentaquine is still undergoing research, Dr. Rice said, but he added that it seems unlikely that it will achieve widespread use in its present form, because of its toxicity to human red blood cells.

Editorials

Present Status of Refrigeration Anesthesia

The freezing of limbs to induce anesthesia for surgical purposes was first described by Dr. Frederick M. Allen in his work on animals in 1937 (*Tr. A. Am. Phys.* 52: 189-194). The method was established in the surgical service of City Hospital, Welfare Island, N. Y. in 1941, and has been in use ever since. Surgeons were loath to accept the idea and several attacks were made against it in various journals, many of which have been answered by the sponsor, personally or through the press.

During the ninety-fifth annual session of the American Medical Association at San Francisco, July 1946, Dr. L. W. Crossman and Dr. Allen read a composite paper before the joint meeting of orthopedists and anesthetists. This paper was published in the *J.A.M.A.* February 8, 1947, (p. 377) and is entitled "Surgical refrigeration and preservation of tissue". The detractors, say these two authors, have failed to understand certain vital points such as the local or systemic effect of cold upon the tissues, either directly on the body or after amputation therefrom. There are defensive reactions against cold which must be considered. Temple Fay, through artificial inhibition of these defenses, found that temperatures of from 10 to 20 degrees below normal could be safely tolerated for as long as seven days without causing destruction of the cells. Actual freezing of the body is promptly fatal, but even the liver and the brain can tolerate freezing for a brief period of time. It is amazing that isolated tissues, such as skin grafts, segments of blood vessels or spermatozoa, can be kept alive for days, not only in an icebox, but when frozen at the temperature of carbon dioxide! On this basis, a dead limb which must eventually be amputated, can be frozen, and the patient can be built up for several days and thus be ready for the operation at a safer period of time.

Radical chilling serves to save a limb in two ways: first, by checking the toxin production and necrosis of the cells, and secondly, by gaining time for the use of drugs or other desired measures.

The authors stated that both in peace as well as in war, this principle of preservation might well save both limbs and life; the experience of Dr. J. W. Nicholas, Baltimore, Md., was cited in this regard. A man, the victim of a blast accident, was brought in with grave abdominal symptoms, blood in the stool and urine, and shock; one hand was gone and the other was badly mangled. Both limbs were amply powdered with sulfanilamide and then packed in crushed ice. Plasma and transfusions were freely used, but only after eighteen days was it possible to attempt reconstructive work on the stump and the mangled hand. As for the latter, a moderate amount of débridement was performed, skeletal traction was applied and extension was obtained by a banjo splint. The compound fractures were powdered with sulfa, and a sulfanilamide paste was applied to the palm of the hand which was without any skin. A good reduction of the bone fragments was obtained and skin restoration took place with the exception of a small area which required grafting. There was some osteomyelitis with sequestration, but this is not described in detail. The result of the treatment was the return of the function of the thumb and three fingers; the little finger was still immobilized at the time of the report. This man would have been handless if an immediate operation had been undertaken; as matters now stand, he has a functioning hand to help him earn a living.

Drs. Allen and Crossman do not recommend débridement for mechanical wounds or burns, since refrigeration enables the crushed or partially destroyed tissues to live until some regeneration can take place. Even those fingers which "hang by a shred" after injury, may be refrigerated for some hours (24 hours is given as an assumption) and then sutured. Reduced temperature should be maintained, but it should be raised slightly each day, until the nutrition is restored. In other words, immediate amputation after an injury is not imperative, since time can be gained through refrigeration, and an attempt at reconstruction can be made. Some of these attempts will fail, of course, but some will succeed and bring the thrill of success to the surgeon.

The authors assert that, "Cold has the unique ability to inhibit simultaneously, pain, shock, infection, toxic absorption and tissue devitalization . . . the lower the temperature, the greater the effect". However, intestinal trauma is something else again, and "hypothermia cannot be recommended for abdominal operations. This new differentiation between forms of shock may have wider theoretical significance".

In the discussion of the paper at the meeting, Professor John Field, Stanford, Mass., emphasized the degree of extreme cold that mammalian cells

may survive; it is largely a matter of oxygen, and a problem of local nutrition. Dr. Field stated that certain types of protozoa and bacteria (which ones in particular is not stated) have survived the temperature of liquid helium (-272)! Dr. Crossman states that "We advocate 40 degrees,—8 above freezing. A near-freezing temperature might produce a frostbite, and primary healing is not possible after frostbite. There can be no shock—no spread of infection or absorption of toxic material. If we keep the temperature at 40° F, the patient will have no pain".

Whatever one may think of refrigeration as a method of inducing anesthesia for amputations is not so important; however, the gain of time for subsequent reconstruction surgery is of the greatest importance. In fact, if "colding" (instead of heating) does all that is claimed for it, traumatic surgery will be revolutionized.

Chronic Alcoholism as a Self-Inflicted Injury

In an action on the total disability provision of two life policies issued to the plaintiff's husband, a retired lawyer, forty-three years of age, the Pennsylvania Superior Court, Lyach vs. Mutual Life Ins. Co., 48 A. 2d 877, affirmed judgment for the defendant insurance company for the following reasons:

Total disability was defined in the policies as "any impairment of mind or body which continuously renders it impossible for the insured to follow a gainful occupation", and the policies provided that: "Disability benefits shall not be granted if disability is the result of self-inflicted injury".

The trial court, sitting without a jury, found that the insured had been totally and permanently disabled within the meaning of the policies since July 23, 1940; that the disability resulted from chronic alcoholism, and that it was self-inflicted. The insured, who had begun drinking to excess in 1937, was separated from the plaintiff, the beneficiary in the policies, in 1940, retired from practice in 1942, and since that time had lived on a farm alone, preparing his own meals and taking care of the livestock. During 1940, 1941 and 1942 he was treated for alcoholism in various hospital and a sanitarium. Whether or not he still drank at the time of the trial, did not appear; neither side called him as a witness.

Physicians, called as experts by both parties, differed widely and fundamentally upon the insured's condition and the general question as to whether chronic alcoholism is a disease or a habit or a self-inflicted injury. The trial court accepted this testimony, in so far as it pronounced chronic alcoholism a self-inflicted injury, without deciding whether excessive drinking is a disease or a habit.

The plaintiff beneficiary contended that "self-inflicted injury" must be construed as though it read: "Willful or wanton self-inflicted injury", and that the insurance company, on whom the burden of proof rested, had failed to show that the injury was so inflicted. The appellate court, after discussing the question, in its opinion concluded that the only rational explanation of the insured's conduct was that "knowing its natural and probable consequences, he nevertheless deliberately chose to subject his mind and body to a risk of substantial harm. His drinking was intentional and, since he could forecast the ensuing harm, it was wanton and self-inflicted". So, adopting for the sake of argument the construction for which the plaintiff contended, it held that there could be no recovery on the policies.

"Law rests upon the postulate", the court said, "that men reasonably have the capacity to choose between alternatives, and that they are responsible for the consequence of its exercise. Intoxication may indeed be involuntary, as when another by duress or fraud induces one to drink; but generally it is voluntarily produced, 'they may pass into that state when they will'; and the law excuses no one for his acts while voluntarily intoxicated save when the law requires a specific intent as a constituent of a crime. 4 Blackstone 25. If a sane man chooses to loose destructive force upon himself, the law will not relieve him of his folly. Neither he nor those claiming from him can profit by a self-inflicted injury".

The court, however, did not expressly hold that chronic alcoholism is, as a matter of law, a self-inflicted injury. It merely decided that the evidence which the trial judge found credible, justified the conclusion that the disability suffered by the insured was self-inflicted. "This question", the court concluded, "has been adjudicated in other jurisdictions under variant policies and facts, and different conclusions have been announced in the courts. It is difficult and unnecessary to decide where the weight of authority lies. The validity of this judgment will rest upon the facts in the record and the soundness of the reasons which impelled it".

Medical Films That Teach

"Medical films that teach", is a type of slogan used by the Medical Film Guild, 167 West 57th Street, New York, N. Y. Data concerning the "movement" recently came to this desk, and reminded one of the American Medical Association meeting which was held in San Francisco during July 1 to 5 1946, where the writer was entertained and instructed in the exhibit division. Visual education is no new thing to be sure, but the technique of presentation and the subjects chosen have reached a point of perfection where one may well wax enthusiasm.

A remarkable feature of this effort to instruct and to make easy the not infrequently complicated anatomy, physiology and pathology of the human body, is that it is free and can be had for the asking. Films in sound and color have been prepared for use in a 16 mm. sound projector, and can be shown, upon the proper application, to groups of students, physicians and nurses. The only request is that the audience be "as large as possible." If a screen and operator are desired, these will also be furnished, *free*. The plan is made workable "through grants for postgraduate instruction". The donor, however, remains anonymous, but he or the organization or foundation thus represented, must get great delight from the satisfaction which comes to the giver of any kind, purposeful gift. Medical students in these days certainly have a sinecure, as compared to the "digging and delving" of their fathers into the basic subjects of anatomy and physiology. This is not all, for it is now possible to study and restudy the patient, by projecting on the screen his gait, speech, and the lesions from which he suffers.

In Parkinson's disease for example, which is becoming recognized as one of the more common nervous disorders although it used to be considered rare, a film in color and sound which requires fifty-four minutes to run, is described as "a landmark in teaching brain disorders", and shows the clinical signs commonly seen, such as masked facies, spasticity, tremors of the head and hands and other points which help to make a diagnosis. The anatomy concerned, the disturbed function in synaptic junctures and the results of this malfunction are vividly portrayed. Contributors to research in this field; namely, Horsley, Meyers, Bucy and Putnam are quoted, and their views are compared with the modern concept set forth by Klemme who surgically analyzed some two hundred cases. A complete operative procedure is presented, and the conditions seen after the operation are visualized. This is a contribution of value and brings to date all that we have discovered concerning this chronic, degenerative, nervous disease.

The film guild has listed fourteen or more such films, which embrace hernioplasty, nonoperative treatment of nasal sinusitis, otitis media in children, a study of acute mastoiditis, examination of the ears during acute infections, a study of the much-written-about petrositis with complicating meningitis, thrombosis in the sigmoid sinuses, chronic purulent otitis, treatment of the major neuralgias and a thirty-five minute visualization of the anatomy of the ear.

The pharmacology of certain respiratory stimulants requires some forty minutes to describe the results of experiments in respiratory changes brought about by drugs, especially in the use of coramine.

Major neuralgias which so often baffle the general practitioner are discussed in relation to the sphenopalatine ganglion, the glossopharyngeal and the trigeminal nerves. The work of Eranger, a Nobel prize winner of 1944, is described, especially the physiology of the nerves. It is also well that the dental and medical professions are brought closer together in the study of pain of the jaws and face; case histories are recited, and the procedures, chiefly surgical, are shown for the relief of the trigeminal neuralgias involving the eye. The results are tabulated statistically.

To obtain any one of these films for a presentation before medical groups, at least three weeks advance notice should be given, and all requests should be written on office or hospital stationery so that the request may be presented in an authoritative manner. A new list of conditions for presentation is now in preparation. This is a praiseworthy enterprise for which we all should be grateful.

Army Medical Library

An agreement has been reached between Mr. Francis R. St. John, director of Library Services for the Veterans Administration and the Army Medical Library, providing for the cataloging of Veterans Administration medical libraries. The work will be done in the Army Medical Library by specially detailed Veterans Administration personnel. Through this arrangement duplication of records and resources will be avoided.

A CENTURY OF MEDICINE (1846-1946)

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The rapid progress made in medicine during the century of the existence of the Northern Medical Association of Philadelphia, has probably been as noteworthy as the progress made in other forms of pure and applied science, biochemistry, and surgery. The changes and advancements in the theory and practice of medicine have been profound and progressively revolutionary in character. When we consider the condition of hospitals in the fourth, fifth and sixth decades of the nineteenth century, with their repulsive odors, their vermin and lack of sanitary facilities, and compare them with the hospitals and "hospital-hotels" of today, we realize the great advancement and improvement that has been made in the care of hospitalized patients, both ward and private!

About the time of the founding of the Northern Medical Association of Philadelphia, ether anesthesia became known. A century ago, the cautious and inquiring William T. G. Morton (1819-1868), a dentist, made his purchase of ether from James Burnett, a well-known drug dealer. He discussed the nature and uses of ether with Theodore Metcalf, a druggist, Joseph M. Wightman, maker of chemical supplies, Dr. Charles T. Jackson, with whom Morton studied medicine, and Horace Wells (1815-1848), who had used nitrous oxide gas (with G. S. Colton) in December 1844, at Hartford. Robert Liston (1794-1847), of London, tried "this Yankee dodge, for making men insensible". He unfortunately died a year later of a ruptured aortic aneurysm.

It should be recalled that Crawford W. Long (1815-1878), of the University of Pennsylvania, on March 30, 1842, administered ether to a patient by the name of James M. Venables, for the removal of a small cystic tumor of the jaw. However, he failed to publicize this first successful use of ether anesthesia.

About the time of the second meeting of the Northern Medical Association in January 1847, Sir James Young Simpson (1811-1870), employed ether anesthesia in midwifery and on January 19, 1847, became the first physician to employ ether in a case of childbirth.

In 1846, William Stokes (1804-1878), described heartblock. It should be mentioned that Marcus Gerbezius (died 1718) in 1717, G. B. Morgagni (1682-1771) in 1761, Thomas Spens (1769-1842) in 1793, Sir William Burnett (1779-1861) in 1824, and Robert Adams (1791-1875) in 1827, described heartblock as a condition accompanied by a slow pulse, dizziness, and convulsions, many years before Stokes!

In 1846, Claude Bernard (1813-1878), discovered the digestive function of the pancreas, and James Marion Sims (1813-1863), of Jefferson Medical College, invented the vaginal speculum. In 1847, Sir J. Y. Simpson introduced chloroform anesthesia in obstetrics and Semmelweis (1818-1865), discovered the pathogenesis of puerperal fever.

In 1848, Claude Bernard discovered the glycogenic function of the liver. In the period of 1848-1850, cholera was prevalent in England and Scotland and in the United States.

At the meeting of the Northern Medical Association, held on January 21, 1847, the subject for discussion was a case report on *Shortened funis umbilicalis,* by Dr. Jewell. At the meeting held on February 11, 1847, Dr. Isaac Remington discussed *Infantile convulsions,* and on March 14, 1847, Dr. E. G. Smith presented his paper on *Traumatic tetanus.* During the first five years of the association's meetings, we find frequent discussions on such topics as *Cholera asphyxia* by Dr. Janney, *Dysentery* by Dr. Robson, *Epidemic cholera* by Dr. Dawson, *Croup* by Dr. Remington, and *Variola* by Dr. Wittig, and Gebhard on *Typhoid Fever.*

Dysentery, erysipelas, rheumatism, scrofula, remittent fever, typhoid fever, cholera, yellow fever, ship-fever, scarlatina, scirrhus of the pylorus, scirrhus of the stomach, whooping cough, spotted fever, variola, diphtheria, tetanus and puerperal convulsions were among the leading topics discussed at the meetings held between 1850 and 1865. More evenings were devoted to cholera, typhoid fever, spotted fever, tetanus, croup, scarlet fever and smallpox during the first two decades, than to any other subject! Today, in 1947, there are many practicing physicians who have never met with a case of any of these diseases in their private practice!

In passing, it is of interest to note that *Ovarian tumor* and *Operation on ovarian tumor* were subjects of discussion in 1852. Ephraim McDowell (1771-1830), performed his first ovariotomy in December 1809, on a Mrs. Crawford, but did not report this case as well as two others, until April 1817. (*Philadelphia Eclectic Repertory and Analytic Review,* 8: 242-244, 1817.) and two more cases in 1819, in the same journal. Drs. Remington and Jewell reported on ovariotomy and ovarian tumors during the first decade of the association's existence. In 1854, yellow fever, typhoid fever and ship-fever, and in 1863 and 1864, cholera, smallpox and spotted fever were still the leading topics of discussion! Ether was discussed by H. B. Smith, on November 25, 1853, and later, Nathan Hatfield spoke on *Anesthesia in midwifery.* On January 20, 1866, Dr. Jacob Solis-Cohen (1838-1927), discussed *Special cases;* on February 9, 1866, Dr. Jacob Solis-Cohen presented his first discourse on *Laryngoscopy* before the Northern Medical Association, and on March 9, 1866 he demonstrated his *Invention for nebulization.* We might add that on October 27, 1917, fifty-one years later, Dr. J. Solis-Cohen (1838-1927), spoke on *The story of the larynx* before the same association!

Hodgkin's disease was the title of the presentation by Dr. J. S. Gibb on December 14, 1888. This subject, the author believes, was also discussed at a much earlier date; Thomas Hodgkin, (1798-1866), had described simultaneous enlargement of the

spleen and lymphatic glands. (Lymphadenoma, *Med. Chir. Trans.*, 17: 68-114, 1832, London). At a later meeting, Dr. Philip Leidy, brother of the noted naturalist Joseph Leidy (1823-1891), also discussed Hodgkin's disease. It might be stated here, that in 1846, Joseph Leidy had found the *Trichinella spiralis* in hogs.

During 1889 to 1895, we frequently find mentioned the names of Drs. I. P. Strittmatter, Charles P. Noble, Daniel Longaker, Francis X. Dercum (1856-1931), A. A. Eshner, Samuel Wolfe; John B. Deaver (1855-1931); E. B. Gleason, Lautenbach, and Nightingale, as participants in the discussions at the meetings. Drs. Schwenck, Shriner, Millick, William E. Parke, Ludwig Loeb (born 1866-), I. P. Strittmatter, Henry Beates (1857-1926), Updegrove, Wolfe, David Riesman (1867-1940), Flick, E. E. Montgomery and Albert Bernheim, appear on the programs, frequently, during 1899-1905. We also find the names of Drs. Hirsch, Judson Daland, William Egbert Robertson, Tom Currie, Aaron Brav (born 1875), Alfred Stengel (1868-1939), Herman Brav, Charles W. Burr, L. Napoleon Boston, William E. Hughes, Dercum, James McKee, Moses Behrend, and Harry Lowenburg. Between the years of 1910 and 1920, at these meetings, the subjects which were chiefly discussed were, Wassermann reaction, treatment of syphilis, etiology and pathology of cirrhosis of the liver, diseases of metabolism, renal disease, diseases of the heart, diabetes mellitus and pernicious anemia. We no longer find cholera, smallpox, dysentery, tetanus, typhoid fever and diphtheria listed as main topics on the program of the Northern Medical Association.

Somewhat later, the subjects presented included symposia on pituitary disorders (2/11/1921), adrenal disorders, by Dr. Henry D. Jump, and surgery of the goiter by Dr. W. Wayne Babcock, (10/22/20), toastmaster at the centennial banquet of the association (December 5, 1946).

Dr. J. D. Leebron discussed *Cretinism and infantilism, Thymic disorders* were discussed by Le Boutillier (February 1921). Felix Platter (1536-1614) first described thymic death in an infant (1614), and also cretinism.

In March 1921, the chief subject for discussion was *Cancer*. Drs. Rodman, Krusen, Knowles and George E. Pfahler very ably covered the various phases of this perplexing problem. Today, twenty-five years later, we are still wrestling with this very serious disease which has become the second commonest cause of death in the adult population.

During this last quarter of a century from 1921 to 1946, the association continued to be one of the most active medical societies in Philadelphia. The scientific programs offered by the Northern Medical Association of Philadelphia have been among the very best—always interesting and always informative—and presented in a most acceptable manner. On March 24, 1922, Dr. Charles C. Wolferth discussed *Newer aspects of cardiology* and *Newer cardiac therapy* and S. Calvin Smith spoke on *Clinical electrocardiography*.

It would appear appropriate to mention a few of the speakers before this association during the past quarter century. The writer cannot list all the fine contributors and participants at the scientific meetings because of limited time and space. Mention, however, should be made of the presentations by Drs. John B. Deaver (1855-1931), Matthew S. Ersner, Martin E. Rehfuss, O. H. Perry Pepper, William D. Stroud, A. C. Morgan, Solomon Solis-Cohen (born 1857), Joseph Sailer (1867-1928), W. Wayne Babcock, Milton K. Meyers, Victor Loeb, Emanuel Libman (1872-1946), Moses Behrend, Sigmund S. Greenbaum, Paul Klemperer (New York), I. Newton Kugelmass, John Eiman, T. G. Miller, Max M. Wintrobe, D. Adlersberg, Richard Kovacs (New York), Alexander Randall, Israel Wechsler (New York), Foster Kennedy (New York), Albert A. Berg (born 1872), Truman G. Schnabel, J. Q. Griffith, I. S. Ravdin, (University of Pennsylvania), Nathan Rosenthal (born 1890, New York), I. W. Held (1876-1947), Louis LaPlace and Dr. William Osler Abbott. Many of these are nationally famous men from other cities.

What a galaxy of high grade medical talent! May this association continue for many years to contribute to the further advancement of medical knowledge, for the alleviation of pain and suffering, and for a happier and healthier life! "No nobler mission nor more honorable work hath man in life than this and no more worthy aim!"

The anthrax bacillus was discovered by Pollender (1849), Ruyer and Davaine in 1850. In 1849, Thomas Addison (1793-1860), described pernicious anemia, previously described by James S. Combe (1796-1883), in 1822, E. Geddings (1834), "F" of Rhode Island (1839), and Lieutaud (1761). Vierordt introduced the sphygmograph in 1850, and the following year, Hermann von Helmholtz (1821-1894), invented the ophthalmoscope. In 1855 Manuel Garcia (1805-1906), introduced the laryngoscope.

Penryth, of England, in 1857, traced typhoid fever to milk. The following year cocaine was isolated by Niemann in Wöhler's laboratory. In 1859, Darwin's *Origin of Species* appeared. In 1860, Czermak introduced rhinoscopy and Zenker described trichinosis. Louis Pasteur (1822-1895) in 1861 discovered anaërobic bacteria, and Ménière described labyrinthine vertigo. The following year, Maurice Raynaud (1834-1881) described symmetrical gangrene. In 1867, Lord Lister (1827-1912), introduced antiseptic surgery and Adolf Kussmaul (1822-1902) introduced intubation of the stomach. In 1869, Charles-Edouard Brown-Sequard (1817-1894), introduced the doctrine of internal secretions. Darwin (1809-1882) in 1871, published his *Descent of Man*. The Spirillum of relapsing fever was discovered by Obermeier in 1873. Gull described myxedema the same year.

In 1875, Landois discovered hemolysis from transfusion of alien blood. In 1875, Sir Thomas Barlow (1845-) described infantile scurvy, and Lösch observed parasitic amebae in dysentery. The cystoscope was introduced by Max Nitze in 1876.

The following year, 1877, Pasteur discovered the bacillus of malignant edema. In the period of 1878-1880, Welch, Prudden, Sternberg and Salmon introduced bacteriology in the United States.

In 1879, Neisser discovered the gonococcus and Hansen and Neisser discovered the lepra bacillus. The following year, 1880, Eberth isolated the typhoid bacillus and Pasteur and Sternberg discovered the streptococcus, staphylococcus and the pneumococcus, and Alphonse Laveran (1845-1922), of Paris, discovered the parasite of malarial fever. Robert Koch (1843-1910), discovered the tubercle bacillus in 1882. The blood platelets were described by Bizzozero in 1882, followed by the discovery of the diphtheria bacillus by Edwin Klebs (1834-1913), in 1883, and the discovery of the tetanus bacillus in 1884 by Nicolaier, and in 1884 by Friedrich Loeffler (1852-1915) of Frankfort on Oder.

Ephedrine was isolated by Yamanashi in 1885 and by Nagai in 1887. In 1886, Reginald Fitz (1843-1913), described the pathology of appendicitis. However, Jean Fernel (1497-1558), gave us the first report of a case of acute appendicitis in his *Universa Medicina* (1554), Morgagni (1682-1771), Mestivier (1759) Laurenz Heister (1755), (reported an abscess of the vermiform appendix), La Motte (1766), and James Parkinson (1755-1824), in 1816, published reports of cases of appendicitis.

The causative agent of malta fever was discovered by Bruce, and the meningococcus was discovered by Anton Weichselbaum (1845-1920), in 1887. In 1888, Weil, and in 1889, Botkin described infectious jaundice. Von Mering and Minkowski produced pancreatic diabetes in 1889. During the same year, Emil von Behring (1854-1917), a Prussian Army surgeon and professor of hygiene at Halle (1894), and Marburg (1895), discovered antitoxins, and in 1894, diphtheria antitoxin became recognized as the specific treatment for diphtheria.

Elie Metchnikoff (1845-1916), described phagocytes in 1884. Max Einhorn (born 1862-), of New York, illuminated the stomach (gastrodiaphany) in 1889. Organotherapy was established by Brown-Sequard (1818-1894), in 1890-1891. Tuberculin was introduced by Koch in 1890. William H. Welch (1850-1934), and G. F. H. Nuttall (born in 1862), in 1892 identified the gas bacillus. The plague bacillus was discovered by Kitasato and Yersin in 1894.

On November 8, 1895, Wilhelm Konrad Roentgen (1845-1923), discovered the x rays. Goldstein, in an editorial of the *J.A.M.A.* pps. 1056-1057, April 21, 1945, states: "What serious errors of omission and commission, what tragedies, have been avoided by the gastroenterologists since the discovery of the roentgen rays! How many unnecessary operations have been avoided! How many lives have been saved! The phthisiologists, gastroenterologists, dermatologists and diagnosticians (internists) and surgeons are particularly fortunate that the x rays are available for their use!"

Sir Ronald Ross (1857-1932), demonstrated the development of the malarial parasite in the mosquito in 1895. Pierre Curie (1859-1906), and Marie Curie (1867-1934), isolated the new element radium (1898), following Becquerel's discovery (1896) of the radioactivity of uranium. The agglutination test for typhoid fever was introduced in 1896 by Fernand Widal (1862-1929) and Sicard; and Wright, Pfeiffer, and Kolle began to vaccinate against typhoid fever. K. Shiga, (born 1870), in 1897 discovered the dysentery bacillus, and Paul Ehrlich (1854-1915), gave us his side-chain theory of immunity.

Filterable viruses were being investigated by Loeffler and Frosch during 1898, and Theobald Smith isolated and cultivated the bovine tubercle bacillus. In 1898, Killian introduced direct bronchoscopy. Walter Reed, (1851-1902), Carroll, Lazear, and Agramonte in 1899, demonstrated mosquito transmission of yellow fever, and Grassi and Bignami proved that the Anopheles is the sole transmitter of malaria. Aspirin was introduced into medicine in 1899 by H. Dreser. Spinal (cocaine) anesthesia was introduced by Bier (1861-) and Corning in general surgery, in 1899. The protozoön of kala azar was discovered by Leishman and Donovan (born 1863-) during 1900-1903.

The complement fixation test was demonstrated by Jules Bordet and Octave Gengon in 1901, and Dutton and Ford discovered the trypanosoma of sleeping sickness (1901). Karl Landsteiner (1868-1943), in 1901, discovered blood grouping (isoagglutination) and in 1930, he perfected his human blood groups. Adrenalin was isolated by Takamine in 1901, and hormones were investigated by Bayliss and Starling (1902-1906). Bela Schick (born in 1877), and von Pirquet gave us the results of their studies on serum-sickness and anaphylaxis in 1903 and von Pirquet gave us the term "allergy". Arthus produced local anaphylaxis at this time. Important in the annals of medicine are the contributions made to electrocardiography, and cardiology in general. Willem Einthoven (1860-1927), of Leyden, by his invention of the string galvanometer (1903), and the contributions of A. D. Waller (1887), Mackenzie (1853-1925), Sir Thomas Lewis, James B. Herrick (1912), and Wenckebach (1864-1940), and the invention of the sphygmomanometer by Riva-Rocci in 1903, and the recognition of coronary thrombosis and myocardial infarction as of common occurrence, and not necessarily always fatal.

Schaudinn (1871-1906), in 1905 discovered the causative organism (*Treponema pallidum*) of syphilis, and August von Wassermann (1866-1925), introduced his serum diagnosis of syphilis (1905). Salvarsan (606) was introduced by Ehrlich and Hata (1910). The Schick test was given to the profession in 1913. Banting and Best isolated insulin in 1921—just twenty-five years ago. How many lives have since been saved and prolonged and made comfortable, by this discovery! E. A. Graham and W. H. Cole (1923-1924), devised roentgenography of the gallbladder. In the *J.A.M.A.*, August 14, 1926, Minot and Murphy published their results of liver feeding in cases of pernicious anemia. It must be stated here that liver therapy in anemia was used by the Frenchmen, Maurice Per-

rin, of Nancy; Paul Carnot, of Paris, and others in 1900-1908, and by the Italians, Pietro F. Castellino (1864-1933), and Alfonso Pirera (born 1877), in 1910-1912 (*Il Tommasi,* Naples, September 20 and 30, 1912), (*Medical Life,* 44:4, 173-194, April 1937.)

Epoch making contributions have been made by Gerhard Domagk, by his discovery of sulfanilamide (1932), Fleming by his penicillin, and Waksman by his streptomycin. At this point, only brief mention can be made of the great advances in the study and treatment of deficiency diseases (avitaminoses) and the universal use of all kinds of vitamins. Advances have also been made in the study and treatment of endocrinological disturbances, and in the diagnosis and treatment of the many allergic conditions, including the use of benadryl, pyribenzamine, and other antihistaminic remedies, for the relief of hayfever, asthma, angioneurotic edema, etc.

What real progress has been made in the methods of treatment of such conditions as pulmonary embolism, subacute bacterial endocarditis, streptococcic and pneumococcic meningitis, the pneumonias, peritonitis, and other serious and heretofore fatal diseases! How many lives have been saved by the early use of penicillin, streptomycin, the sulfanilamides, heparin and dicoumarol, the vitamins, radioactive iodine, phosphorus, gold, and other isotopes! The great value of aminoacids, hydrolysates, globulin fractions, and the discovery and importance of the Rh factor, as shown by Philip Levine (born 1900) in 1941, Karl Lansteiner and Wiener in 1940, now common knowledge!.

With this rapid progress in the treatment of disease and the recommended use of so many preparations in mind, one may recall with Oliver Wendell Holmes (*Medical Essays,* pp. 378-379, Boston, 1883.): "There is nothing men will not do, there is nothing they have not done to recover their health and save their lives. They have submitted to be half-drowned in water, and half-choked with gases, to be buried up to their chins in earth, to be seared with hot irons like galley-slaves, to be crimped with knives like cod-fish, to have needles thrust into their flesh, and bonfires kindled on their skin, to swallow all sorts of abominations, and to pay for all this, as if to be singed and scalded were a costly privilege, as if blisters were a blessing, and leeches a luxury. What more can be asked to prove their honesty and sincerity?"

Footnote: Dr. Charles L. Leonard, Philadelphia pioneer roentgenologist, at a meeting of the N.M.A. on February 12, 1904, spoke on "The General Application of the Roentgen Rays in Diagnosis and Therapeusis". Wilhelm Konrad Roentgen (1845-1923) discovered the x rays November 8, 1895, and communicated his discovery to the president of the Physical Medical Society of Wurzburg on December 28, 1895, and published his first report "Uebereine neue Art von Strahlen" in **Sitzungsbericht der Physik. Med. Gesellschaft zu Wurzburg,** 132-141, December 28, 1895.

Active immunization was tried by Ferran against cholera (1893), and by Haffkine against plague (1895), while Jenner's (1798) vaccination against smallpox and Pasteur's vaccines against rabies, anthrax, and swine erysipelas merit mention. F. Widal's (1862-1929) attempted immunization against typhoid (with A. Chantemesse, 1888) and Wagner von Jauregg's (1857-) treatment of paresis with malaria (organisms) inoculation (1917); now penicillin has become the remedy in certain types of syphilis!, are here mentioned.

1425 Broadway

MEDICAL ESSAY

Thoughts on Health

B. LIBER
New York, N. Y.

Before the turn of this century medical men rarely spoke of health. Even now the profession as a whole, is not entirely health-conscious and not sufficiently trained in health conservation or disease prevention. Their job being to cure or to try to cure, they are naturally more interested in disease. What conversion we have, has come from many sources. Public health work, the progress of preventive medicine as such, scientific popularization in general, the information of the lay public in health matters through the press and the advancement of mental hygiene have had their share in influencing us.

What is health? According to Doctor Knock, the hero in Jules Romains' famous comedy with the same name, there is no such thing. Or at least it is a negative quality, which amounts to a defect; the normal condition of man being illness. He claims that a physician who allows his community to be deprived of sickness, to stop complaining of symptoms, is badly antiquated, greatly inefficient and poorly prepared for his duty.

The truth is that a scientific definition, like most definitions, would be faulty somewhere. It might either include or exclude too much. Perhaps the nearest is: Health is a state in which there is adequate physical and mental adjustment to environment and a harmonious cooperation between organic functions. It has been claimed that the lack of subjective knowledge of the existence of an organ, is proof that that organ is healthy. However, we know how sick the heart can be without the patient being aware of it. One may be completely uninformed of the existence of a threatening or dangerous growth.

"Perfect health", a phrase so often used, is meaningless. The best that anyone can hope or expect to attain, is a condition of proximity to a normal state. The word "normal", which we all employ for want of a better word, designates an elusive idea. It is impossible to explain normality with precision. The norm is a static rule or an established and immobile standard. However, the body and the mind are alive and dynamic and never follow and never can follow exact rules. If we trace a straight line and call it normal, health will not cover it; in the best case it will be more or less near it, pursuing it in a zig-zag, or in curved turns below and above it. If the crooked health line wanders off far from the normal line or plunges away from it, we have disease. In other words, real health must deviate from imaginary normality and only a great deviation is considered ill-health. Or, putting it in another way, health, for the sake of adjustment, must be constantly disturbed in order to be what we call normal, which sounds like a

paradox. As ideal health means adjustment, it must also mean—imperfection! No sooner have we, or has any part of our system become adapted to light, temperature, air motion, food, and environment in general, than a new adaptation is necessary, because of the continual or continuous change of the surroundings and of the media in which we live. The criterion of health being the ability of the body and the mind to fit into surrounding conditions, an adjustment takes place or should take place constantly, uninterruptedly. Any organ or function persisting in an unchanged position, as so-called "perfection" would require, remains behind and unadjusted, *ergo* unhealthy, or at least not completely healthy. Therefore, the expression "perfect health" is absurd, unless used in a loose way.

Incessant dilatation and contraction of the pupil to various and infinite shades of light and darkness; color modifications and trophic changes of the skin, as a reaction to ambient atmospheric temperatures and also as a result of the vasodilator and vasoconstrictor mechanisms—are elementary examples of adaptation; many examples could be given, some visible and some difficult to perceive. Ideal health in these cases signifies a ceaseless aptitude to change, to respond to stimuli. Wherever this quality has been lost, we have disease, either in the form of a cause or as an effect of disease.

There is no strict demarcation between health and disease. When we are ill, we also have some health at the same time. Therefore, both opinions, although extreme, that we are always more or less healthy and that we are never really healthy, are correct, except that the former, optimistic view, is more helpful.

Disease prevention is modest and unassuming. In fact, while a physician or a public health man may feel that he has prevented sickness and death, either in an individual or in a community, he is unable to prove it to others. Treatment, on the other hand, when successful, is spectacular and highly convincing, although, even there, no one knows how much the recuperating power of the body and the mind or their resistance has helped to cure.

There is one form of prevention that should be apparent to anyone—the reduction or diminution of excess. Excess, both above and below the normal, as a destroyer of health or as an important etiological factor in disease, has never been fully recognized by science. The public knows vaguely that both extremes, overeating and insufficient nourishment, over-resting and over-working, over-worry and over-drinking, over-exposure and over-protection are harmful to health. The layman is aware that no matter what glands are involved or invoked, obesity has a good deal to do with the amount of food consumed and that, regardless of other causes, underweight is largely due to scanty food intake or poor assimilation. While we may advocate some short fasts as a remedy in acute conditions—perhaps for twenty-four hours—we are occasionally confronted with the effects of under-nutrition, not only because of economic poverty, but as a result of a voluntary submission to a prolonged so-called "fasting cure", as recommended by a well-known author in one of his books. In the name of some health cult, such patients for weeks undergo a starvation "therapy" in the hope of "purifying" themselves entirely or for the purpose of getting rid of pulmonary tuberculosis or cancer or what have you. These extremists attain their aim or almost, because they die or are at the brink of death.

A few months ago this writer had the occasion of examining a rare—for this country—combination of excessive deficiencies artificially created. It was number 99,501 of the Nazi, Oswieczym camp. Although by the time he had reached these shores he had improved considerably, he, a thirty-four year old man, sixty-nine inches tall, weighed not more than ninety pounds. When he was freed, his weight was under seventy pounds. He was one of one hundred and four men who had remained alive from among his group or subdivision of ten thousand men with whom he had arrived at the torture place four years previously. All the others had perished. They all had but little food; they were exposed, in rags, to severe cold, when they were not kept indoors packed in the most ill-smelling air. They either passed their time in tormenting boredom, agonizing idleness and harrowing fear or were put to hard, though useless labor, such as endlessly digging holes in the ground and refilling them again and other destructive efforts, that only perverted and diabolical minds could invent. The human dignity of this fine, intelligent, well-bred person was constantly attacked and deeply injured by the low beasts who were his supervisors. In addition to regular whippings for no reason or for slight infractions, in addition to the branding of a triangle under his serial number on his forearm, he had to bear the spectacle of his young wife being atrociously mishandled and killed in his presence.

There is much talk about the extension of life, not through the medieval elixir or by immersion into the *Fontaine de Jouvence*, the waters of which were another form of the lovely nymph metamorphosed by Zeus, but by enjoying "perfect health" or by removing from the body the cause of all decay. Bogomoletz, who died a mere youth of sixty, was sure that we could live one hundred and fifty years by following his treatment. However, the man and the woman of seventy or eighty are old; they feel that they are beyond their allotted span and that they live "on borrowed time", that they don't belong and that their own generation is passing or has passed away.

Of course, most people are condemned to fritter away their existence in low labor, without anything to say about their destiny. But for the happy minority, to which professionals often belong, the real secret of long living is (in addition to physical health, which depends but partly on oneself and a good deal on social and economic conditions) more intense living. For those who can do it, longevity consists of multiplying the days and the years by filling them with well-chosen activity, by enriching them with study and observation and by cultivating an ideal.

65 West 95th Street.

News Items

American Trudeau Society.—The American Trudeau Society is participating in formulating plans for more extensive research on the use of streptomycin and it is hoped that a federal appropriation may be secured for the purchase of a much larger amount of this drug for distribution to agencies qualified to carry out such scientific studies as may be indicated. The Division of Tuberculosis of the State Department of Health some time ago submitted an application to the society for the allocation of a supply of streptomycin, for use primarily in the state tuberculosis hospitals.

1947 Schering Award Competition.—"The Clinical Use of Androgens in The Female" has been selected as the subject for the 1947 "Schering Award" competition, among medical students in the United States and Canada, according to Dr. John N. McDonnell, director of domestic sales and promotion for Schering Corporation, Bloomfield, N. J. As in previous years, cash prizes of $500.00, $300.00 and $200.00 will be given for the best manuscripts received on this subject. Three judges, prominent in endocrinology, will select the winning entries. Dr. Norman L. Heminway, head of the Schering Medical Service Department, is chairman of the Schering Award Committee and in charge of the competition. This year's Schering Award Contest which closes July 31, 1947, it is anticipated, will bring even more widespread interest than in previous years.

Army Medical Library Microfilm Service.—During the war, the Army Medical Library through its photoduplication services supplied millions of pages of microfilmed medical articles to the armed services and other research agencies. The principal of immediate aid direct to the user, whereever he might be introduced a new technique to assist medical research. This service is now generally available for civilian physicians, institutions and research workers on a cost basis. This means direct access to the library's enormous resources of medical literature.

A fee of fifty cents is charged for filming any periodical article in a single volume, regardless of length. Microfilming from monographs is furnished at fifty cents for fifty pages or fraction thereof. Photostats are also available at a charge of fifty cents per ten pages or fraction thereof. Material filmed is not for reproduction without permission of the copyright owner. For convenience and to keep bookeeping costs down, a coupon system has been established. Users may buy any quanity of photoduplication coupons at fifty cents each. Order blanks are available upon request. Checks should be made payable to the Treasurer of the United States, and sent to the Army Medical Library, 7th St. & Independence Ave., S. W., Washington 25, D. C.

Grant for the Investigation of the Heart and Circulation.—The Public Health Service has made a grant to Temple University School of Medicine and Hospital, Philadelphia, Pa., of $20,750 a year, for the physical and physiological investigation of the heart and circulation. The study has shown that by means of the electrokymograph, accurate tracings of the motion of the borders of the chambers of the heart and of the great vessels can be obtained.

Army Medical Library.—Administration of the reference library, physically located in the office service division of the Surgeon General's Office, was transferred to the Army Medical Library January 26, 1947. This library has been maintained as a reference service for medical officers, and a large percentage of its holdings of about 1500 volumes were on permanent loan from the Army Medical Library. It includes medical reference works, legal statutes, and annual reports of the surgeon general from 1868 to the present.

Research on Alcoholism.—Cornell University Medical College has received a gift of $150,000 to be devoted to five years of research into the causes of chronic alcoholism. This announcement was made by the Research Council on Problems of Alcohol, an associated society of the American Association for the Advancement of Science.

The project will be under the direction of Dr. Oskar Diethelm, professor of psychiatry at Cornell and chief psychiatrist at the New York Hospital.

Films on Ether.—*Ether for Anesthesia*, a new 16 mm. motion picture film with sound track, describing the development of the production of ether since 1846, has been released by the Mallinckrodt Chemical Works and is now available for showing to interested professional and student groups. In a nontechnical presentation of a century of scientific advance in the manufacture, purification, and preservation of ether, the new film documents the achievements of manufacturing chemists in making ether the safe, reliable, and economical anesthetic it is today.

Not to be confused with the company's long popular motion picture, *Advent of Anesthesia*, which is a reenactment of the first public demonstration of ether anesthesia at the Massachusetts General Hospital in 1846, the new film, *Ether for Anesthesia*, nevertheless comprises a logical continuation of the earlier story. For this reason, copies combining both pictures on a single reel are being made available. The *Advent of Anesthesia* film has been reedited and a narrative sound track has been added.

The two films are also available separately. They are loaned, without charge, subject to prior booking, for showing to responsible medical, nursing, pharmaceutical, chemical and scientific groups, or to student groups, upon application to the Advertising Department, Mallinckrodt Chemical Works, St. Louis 7, Missouri.

Grant to Temple University.—The National Cancer Institute of Bethesda, Maryland has made a grant of $10,000 to the Temple University School of Medicine and Hospital, Philadelphia, Pa., for the study of the relation of cellular injury to the development of repair and neoplastic tendencies.

Social Service Committee of the Pennsylvania University Hospital.—Dr. Francis C. Wood, assistant professor of medicine, The University of Pennsylvania Medical School, was recently elected president of the social service committee of the University Hospital. The following were elected to posts on the committee: Vice presidents, Mrs. Thomas S. Gates and Dr. Donald M. Pillsbury; secretary, Dr. Julian Johnson; treasurer, Henry R. Pemberton, and auxiliary chairman, Mrs. John B. Thayer, 3rd.

International Literature Exchange.—One of the most fruitful sources for completing files of foreign medical periodicals is the exchange of duplicates with overseas libraries. Postwar piece for piece exchange of duplicates was actively begun in July 1946. At that time a list of duplicates in the Army Medical Library's collection was sent to 157 foreign medical libraries with a request that the latter send their lists of available duplicates. Replies from Australia, Brazil, China, the Dutch East Indies, Ireland, England, France, Holland, India, Sweden, Switzerland, Turkey, Uruguay and Venezuela have been received, accompanied in many instances by lists of their offerings. The acquisition division is enthusiastic about developing this duplicate exchange. Just before Christmas, 93 boxes of duplicate periodicals were received from the Library of the American Medical Association. The library will share this gift by making duplicates available to other medical libraries through the Medical Library Association Exchange.

Directory of Biological Laboratories.—The third edition of the Directory of Biological Laboratories has been published, completely revised and materially enlarged over previous issues. It lists laboratories of the United States which are concerned with biological, bacteriological or biochemical investigations. It includes research laboratories, consulting laboratories, and those related to manufacturing processes; the latter embracing food and nutrition products, vitamin products, organic chemicals and pharmaceuticals, biologicals, glandular products, etc. Personnel and professional data are shown for the laboratories listed. One section of the work is a Buyers' Guide giving a classified list of sources of supply for apparatus, equipment, instruments, materials, etc., used in laboratories of this type. The book consists of 117 pages, and the price is $3.00 per copy. The publisher is Burns Compiling & Research Organization, 200 Railway Exchange Bldg., 80 E. Jackson Blvd., Chicago 4, Ill.

U. S. Public Health Service Grants.—In accordance with recommendations made recently by The National Advisory Mental Health Council, the U. S. Public Health Service announces that three types of grants may soon be available under the National Mental Health Act. These grants would provide funds for training, for research, and for community services.

The Service is now authorized to make grants to institutions offering training in psychiatry, clinical psychology, psychiatric social work and psychiatric nursing—for the purpose of improvement, expansion and inauguration of training programs in these fields. Application forms and complete information may be obtained from the Training and Standards Section, Mental Hygiene Division, U. S. Public Health Service, Washington 25, D.C.

Education on Alcoholism.—A committee for Education on Alcoholism has been organized at Schenectady, N.Y., and an information center, sponsored by the committee and located at 124 Clinton Street, has been in operation since early in February.

The declared objectives of the committee, in addition to the operation of the information center, are promotion of education on alcoholism as a disease and as a public health problem and aiding in development of adequate hospital facilities for the treatment of alcoholics.

The information center is at present in the full-time charge of a man experienced in dealing with alcoholism and the problems of alcoholics. Its facilities are available to all who are interested in seeking information and advice on these subjects.

State Aid for Tuberculosis Hospitals.—According to *Health News*, 24:8, 1947, all counties, except one, and all cities eligible for state reimbursement for the care and treatment of tuberculosis patients under the provisions of Chapter 999, Laws of 1946, have made application for such aid.

New York City has made application for aid in its hospital program both in connection with the hospitals operating under the Department of Hospitals and those private institutions which for many years have been providing hospital service for the city.

One city and one county have made formal application to the state commissioner of health requesting the state to take over and operate their local tuberculosis hospitals: Buffalo for its tuberculosis hospital, the J. N. Adam Memorial Hospital at Perrysburg; and Oneida County for Broadacres Sanatorium at Utica. One other county has taken preliminary steps in the same direction.

Plans are being made to make a study and appraisal of the physical facilities of these hospitals including the structural characteristics of the existing buildings, their suitability in relation to continued hospital service, and other features of the tuberculosis hospital program.

Personal.—Colonel Leon L. Gardner, M.C., formerly commandant of the Army Medical Library has received an assignment in the physical standards division, disposition and retirement branch of the Surgeon General's Office. Colonel Gardner served as director and later as commandant of the Army Medical Library from September 1945 through December 1946. He has seen active service in both world wars, and his duties before coming to the library included service in the China-Burma-India Theatre and command of a general hospital in France. He is a former director of the army affairs of the American Red Cross.

Dr. Edward S. Godfrey, Jr., state commissioner of health since April 21, 1936, has announced his approaching retirement. This was recently made known by Governor Thomas E. Dewey in a message to the legislature, in which he nominated the members of his appointive cabinet for new terms. Paying tribute to Dr. Godfrey as "an outstanding expert in the field of health and a fine public servant", Governor Dewey simultaneously announced that he had reappointed Dr. Godfrey to serve as commissioner, pending the designation of his successor.

Major General Norman T. Kirk, Surgeon General of the Army, was appointed an honorary fellowship in the American College of Surgeons at the recent meeting of that organization in Cleveland, Ohio. At this time, fellowships were also conferred upon some five hundred surgeons of the United States, Canada and other nations.

Colonel Henry C. Dooling, M.C., former chief health officer, the Panama Canal, has been appointed chief of the medical consultants division of the Office of the Surgeon General. He succeeds Colonel Arden Freer who has retired.

Colonel Arden Freer, chief of the medical consultants division of the Surgeon General's Office, will retire from the Medical Corps of the U. S. Army after thirty-two years of active duty. Colonel Freer, who, upon his retirement, will join the Veterans Administration as a member of General Hawley's staff in Washington, was recently awarded the Distinguished Service Medal for his "exceptionally meritorious service" in the army.

Dr. Alan F. Guttmacher, Baltimore, Md., and Dr. Abraham Stone, New York, N.Y., were recently named as the winners of the third annual Lasker Awards of the Planned Parenthood Federation of America. The presentation was made by Dr. Robert L. Dickinson, spokesman for the federation's Lasker Award Committee.

E. Walton Bobst has been named operational vice president and director of William R. Warner & Co., Inc., New York, N.Y. Mr. Bobst will concentrate on the ethical and proprietary pharmaceutical divisions of the company and its subsidiaries. To assume his new position, Mr. Bobst is resigning as the managing director of Roche-Organon, Inc., at Nutley, N.J.

Dr. Merrill E. Speeter, last month joined the Organic Research Dept. of Bristol Laboratories Inc., Syracuse, N. Y.

Colonel Joseph H. McNinch, M.C., has been designated commandant of the Army Medical Library by the Surgeon General, succeeding Colonel Leon L. Gardner.

Mr. Scott Adams has been appointed acting librarian of the Army Medical Library to replace Mr. Wyllis Wright who is leaving to become librarian of Williams College.

Dr. Vernon Tate, honorary consultant to the Army Medical Library, will leave his position at National Archives to take over the duties of librarian at the Massachusettes Institute of Technology. He will direct a campaign to greatly increase the scientific holdings of that library.

Miss Elizabeth McKinley, of the Washington University Clinics, has been appointed director of the medical social service department of the University of Chicago Clinics and professorial lecturer in the School of Social Service Administration of the university, according to an announcement made by the president, Ernest C. Colwell.

Dr. Robert P. Herwick, Medical Director of the U. S. Food and Drug Administration, has accepted an appointment as medical director of the Whitehall Pharmacal Co. Dr. Herwick's acceptance of the post was announced by William F. Laporte, Whitehall vice president and general manager. Whitehall, a division of American Home Products Corp., manufactures such products as Anacin, Bisodol Antacid and Kolynos Tooth Paste.

Dr. F. Kenneth Albrecht has joined the editorial department of the Williams & Wilkins Company, medical publishers of Baltimore Md. Dr. Albrecht is the author of the book, *Modern Management in Clinical Medicine.*

Dr. Ward H. Cook, director of the Bureau of Laboratories of the City of Yonkers, has been appointed to direct the hospital's laboratories, in order to provide for the increased number of patients who will be cared for at the Long Island College Hospital when the expansion program of the hospital now underway is completed.

Dr. J. Robert Willson, Philadelphia, Pa., has been appointed professor and head of the Department of Obstetrics and Gynecology at Temple University School of Medicine and Hospital. Dr. Willson graduated from the University of Michigan School of Medicine and obtained his M.S. Degree from that institution in Obstetrics and Gynecology. He continued on the staff of the University of Michigan until 1938, when he was appointed assistant professor of obstetrics and gynecology at the University of Chicago and the Chicago Lying-In Hospital. His research work has been in toxemia of pregnancy and carcinoma. He is a member of the Society for Experimental Biology and Medicine, the Chicago Gynecological Society, as well as the County, State Medical Society and the American Medical Association.

LETTER FROM BRITAIN

(From Our Own Correspondent)

Establishment in Eire of Two New Ministries

Mr. DeValera has introduced into the Daila Bill the establishment of two new ministries for Eire; a ministry of public health and a ministry of social welfare.

Hospital for Tropical Diseases in London

This hospital, which was closed during the war, has recently been reopened. The hospital is open to all persons suffering from any form of tropical disease.

The Resignation of Sir Ernest Graham Little, M.P.

Sir Ernest G. Little, an energetic member of parliament for London University, because of the work demanded from members of parliament at the present time who recognize their responsibilities and their duty to their constituents, has resigned from the chairmanship of the University External Council, a post he had continuously held for nearly twenty-five years.

Death of Dr. Richard R. Cruse

Richard R. Cruse, M.D., an eminent London surgeon and oculist who acted in the capacity of physician to King George and Queen Mary, died in St. Mary's Hospital, London, on Christmas eve. He was the surgeon to the Royal Westminister Ophthalmic Hospital, and he served with the British Army in France in 1914-18. He invented a visor of light, chain mail to protect eyes from injury; it was in use in British hospitals in France and adopted by British authorities in 1918. He brought out a plastic operation to prepare contracted sockets for the fitting of artificial eyes. He shone as a teacher, who spared no pains to teach his students. He inspired them and his patients by his own confidence. He passed away virtually in harness.

Medical Capitation Fee

The insurance acts committee of the British Medical Association passed the following resolution on January 7, 1947. That the Minister's offer of three dollars and ten cents as a capitation fee for medical service, under the existing national health insurance acts, and his proposals for augmenting the mileage fee, both retrospective to January 1, 1946, be accepted without prejudice to the remuneration to any future service and to the factors employed in its assessment.

It seems that while there is disagreement among British medical men as to the merits of the health act, from their viewpoint, that perhaps the general opinion of the medical profession as a whole, is that certain points in the act including the regionalization of hospitals and the establishment of local health centers are worthy of retention. However, the terms of the act appear to discourage in every way, the continuance of private medical practice.

Retirement of G. Gray Turner

G. Gray Turner, M.D., a great surgeon, has retired from the chair of surgery at the British Postgraduate Medical School. The title of professor emeritus at the University of London has been conferred upon him.

Annual Congress of the British Ophthalmological Society

The annual congress of the British Ophthalmological Society was held in Glasgow on March 27, 28 and 29, 1947. The president delivered an address entitled, "De Senectate", (concerning old age) an appropriate subject in Britain at the present time. The subject chosen for discussion was "Rhinology in Relation to Ophthalmology". The annual dinner was held on March 27th and on March 28th.

Meeting of the Royal Sanitary Institute

A meeting of the Royal Sanitary Institute was held at Warrington on December 11, 1946. Papers were read on "The Welfare of Old People", by Dr. F. S. Allison; and "The Mental Health of the Elderly" by Dr. J. E. Nicole. The question of the care and welfare of old and elderly people is being discussed in this country eloquently and frequently. It is an important social subject, as in no other civilized country do those over sixty years of age preponderate, as they do in Britain. The figures are almost staggering. There are, in a population of forty-five million or thereabouts, no fewer or more than six million persons over sixty years of age; many of them poor and unable to take proper care of themselves. While the world is for the young, and rightly so, the elderly and old also deserve consideration.

Joint Tuberculosis Council

The British Joint Tuberculosis Council has started dealings with the National Health Service Act, but the entire report has not been published. The council's committee on nutrition has reported that they have studied the effect of bread rationing on tuberculosis and have also considered whether diets for the tuberculer should be reinvestigated; they decided that at present no action was required in either case.

It is an orthodox view that undernutrition plays a significant rôle in producing pulmonary tuberculosis. However, an Australian authority, F. M. Burnet, M.D., in a work recently published, dealing on the background of infectious diseases in man, appears to agree with the views of those who hold that there is extremely little worthwhile evidence in support of the effect of undernutrition in bringing about pulmonary tuberculosis. In the opinion of Dr. Burnet, it is reasonable to believe that inadequate nutrition will hinder recovery, but that it has yet to be proved that minor nutritional deficiencies in normal populations, have an influence at all comparable to that of the genetic constitution.

Picture Library Established by the British Red Cross

The British Red Cross has established a picture library for the purpose of lending reproductions of fine pictures, old and modern, to hospitals or sanatoriums where patients are confined for any length of time. The hospitals pay an annual subscription fee, at the rate of one penny per week. This seems an excellent innovation, and it should help relieve the monotony of the time spent in these institutions, and also keep the patient's minds, if only for a brief period, from dwelling on their own illnesses.

The Ethiopian Hospital

Miss Sylvia Pankhurst, who with her mother and sister, was much in the public eye some years ago, fighting strenuously for women's rights, is now acting as a secretary of the Princess Tsahat Memorial Hospital Fund, to establish a hospital in Ethiopia. She recently stated that more than $320,000 had been raised towards the $400,000 for this hospital at Addis Ababa in Ethiopia, and of this amount, no less than $160,000 was collected in Ethiopia itself. The building, with the addition of an outpatient department, theater and kitchen blocks is nearing completion. The internal equipment, some of which is ready for shipment, is being purchased in Britain. Applications for positions on the medical and nursing staff will be considered by the medical committee. Correspondence should be addressed to Miss Sylvia Pankhurst, 3 Charteris Rd., Woodford, Essex, England.

The Industrial Medical Man

R. A. Kehoe, in the *Medical Press and Circular,* January 16, 1946, has pointed out that in Britain we have not developed the type of industrial physician required by the nature of the work to be done. Too many of the British industrial medical men are giving only part of their time to industrial medical practice, in which they have no profound interest and for which they have had no special training. Many, if not most of them, know little or nothing of the industrial plants from which workers come to consult them and in addition, they have no understanding of the industrial environment. Special knowledge and training are essential, and present day medical training in this field leaves much to be desired from the point of view of industrial medical practice. Medical teachers have not recognized the special requirements in this field and have made little or no provision for the adequate instruction of men who wish to enter it. In short, more attention must be paid to the elimination of occupational diseases in the future. Industrial sanitation and domestic hygiene are pressing problems to be tackled energetically and solved as far as is possible. Doctors who practice or intend to practice in such branches of medicine must, or should have, up-to-date information on, and definite knowledge of the subjects concerned which will be not only of value to them, but what is more important, of value to a country which is in the forefront of industrial development.

The Medical Officer in Industry

E. H. Capel, in the *Medical Press and Circular,* July 3, 1946, thus defines the duties of the medical officer in industry: 1. Examination of new applicants; 2. Examination of workers on their return to work after illness or injury, to determine their fitness; 3. Immediate treatment of emergencies; 4. Routine examinations of workers exposed to special hazards; 5. Advice to workers on health matters relating to their work; 6. Control of working conditions by advice given to factory management. Capel states that in carrying out these various duties, there should always be close cooperation between the industrial medical officer and the worker's own doctor.

Changes in the London County Medical Service

At a recent meeting of the medical society of the London County Council Medical Service, the North Eastern Fever Hospital, London, Dr. E. H. R. Harries outlined certain changes in the medical service since 1890, when compulsory notification had led to its establishment. In increasing measure, the previous main causes for admissions—scarlet fever, diphtheria and the enteric group—were being replaced by children's measles, whooping cough and gastroenteritis. The specialties in this hospital are now in the hands of experts, and the frequent presence of students, undergraduates and postgraduates are highly stimulating to the staff. Isolation of cases until diagnosed, and the avoidance of cross-infection, determined the hospital planning.

Experimental School of Nursing

It is unfortunately the fact that nurses are scarce in Britain. The London *Lancet* appointed a commission sometime ago to investigate the matter and to suggest reforms. This commission did its task thoroughly and suggested many remedies. It was a full and detailed review of the whole question, which there is no space to enter into or to discuss at any length, but it must suffice to point out that the commission advocated the establishment of a well conducted experimental school of nursing which could go far to revive the appreciation of nursing as a profession for women and to raise the standard of present day nursing. It must be understood that the old time nurses were zealous toward their work which they performed under unpleasant conditions and restrictions, most of which were unnecessary and which have been removed to a large extent. It seems that the lack of freedom, or comparative lack of such, and the discipline prevailing in British hospitals, act as a deterrent to the modern girl. Of course, conditions of living, food and hours of work have been improved vastly, and it is hoped that recruits to the nursing profession in Britain will join in sufficient numbers to care for the sick and injured, of whom there are more than ever before, and who are in need of the services of an efficient, kindly nurse. It may be added that an able nurse is as essential in a hospital as a physician or surgeon, and that a patient depends greatly on her ability and adherence to duty for his recovery.

Book Reviews

Peripheral Vascular Diseases

Peripheral Vascular Diseases. By EDGAR V. ALLEN, M.A., M.D., associate professor of medicine, Mayo Foundation, Graduate School, University of Minnesota; NELSON W. BARKER, M.D., B.A., associate professor of medicine, Mayo Foundation, Graduate School, University of Minnesota; and EDGAR A. HINES, JR., M.D., B.S., associate professor of medicine, Mayo Foundation, Graduate School, University of Minnesota. Written in collaboration with associates in the Mayo Clinic and Mayo Foundation. With 386 illustrations, seven in color. Philadelphia and London: W. B. Saunders Co., 1946. Pp. xii + 871. Price $10.00.

This is in every respect a Mayo book, for not only are the sponsors who are named on the title page, associate professors of medicine in the Mayo organization, but the eleven co-authors listed later on as "contributors," have derived their knowledge and experience in the Rochester group. The book is dedicated to George Elgie Brown, who was a pioneer in diseases of the peripheral vascular system when he joined the Mayo group in 1921. "Doctor Will" gave him his choice of fields in which to devote his energies and time, and he chose to work with blood-vessels because of a pioneering spirit which urged him to be the first to use the Wassermann test and roentgenoscope in the state of Montana. His untimely death in 1935, put upon his friends and associates the duty of completing the work he had planned and which was already well under way toward publication.

Peripheral, vascular diseases are numerous and usually show symptoms in the dermis or the organs near the body surface. Raynaud's and erythromelalgia are notable examples, while scleroderma and various thromboses of terminal vessels are quite as often seen. Varicose veins, frostbite effects and the type of arterial degeneration found in shipwrecked sailors in World War II who sat for days with their feet in water, are well known. Too often the treatment is surgical, with a loss of a hand, arm, foot or leg. Medical men are studying these peripheral conditions with the object of prevention, or conservation of limbs without partial amputation. This is, in a broad sense, a new specialty, although the conditions upon which thought is now being intensively concentrated, are as old as the human body itself. This book has laid the groundwork upon which, it is hoped, a great superstructure of conservation and relief of symptoms can be erected. It well illustrates the ever-expanding field of medicine and the growing necessity for specialization.

Otology

The Human Ear in Anatomical Transparencies. Descriptive text by STEPHEN L. POLYAK, M.D., professor of anatomy, the University of Chicago. Illustrated. New York: The Sonotone Corporation, 1946. Pp. vi + 136.

In days of yore, one was obliged to go to French and German sources for the best anatomical illustrations. Happily this is no longer true. Moreover, we used to read legends such, as "After Gray" or "After Cunningham", and we were happy to give such deserved recognition, but after a glance at this descriptive atlas we know that the Americans are now in the very front rank in this field. This book is not only a story in pictures, but the descriptive text is all that one could wish for; moreover, it is a thing of beauty. One wonders why some great publishing house did not bring out a similar volume long, long ago; for the need was great and the published material remote or inadequate. The first ear plates were done in black and white under the hand of Dr. Adam Politzer, father of otology. Colored plates came much later and were imperfect and inadequate.

The dissections are in themselves works of art, but how it is possible to transfer every last detail to glazed transparent paper is a mystery. Again, how can colored plates be made on both sides of a sheet and not show through? The book is a mystery of marvelous bookmaking. Part I deals with the gross anatomy of the auditory apparatus, and, what is agreeably surprising, of the organs of speech as well. There are several excellent pictures of the larynx (Chapter IV), with a descriptive text on the form and function of this organ.

Part II describes the structure and function of the middle and internal ear. Chapter VII describes the microscopic anatomy of the middle and internal ear in which the Golgi stain brings out the nerve cells and fibers with great distinction of detail. This reviewer, an old-time otologist, wishes he might have had this marvelous aid as a beginner, but unfortunately it did not exist. Congratulations now to budding otologists.

Diabetes

The Modern Treatment of Diabetes Mellitus. Including Practical Procedures and Precautionary Measures. By WILLIAM S. COLLENS, B.S., M.D., chief of the diabetic clinic, chief of the clinic for peripheral vascular diseases and associate visiting physician, Israel Zion Hospital, Brooklyn; and LOUIS C. BOAS, A.B., M.D., assistant in the diabetic clinic and assistant in the clinic for peripheral vascular diseases, Israel Zion Hospital, Brooklyn. Illustrated. Springfield, Ill.: Charles C. Thomas, 1946. Pp. xx + 514. Price $8.50.

The authors are associated with the Jewish Sanitarium and Hospital for Chronic Diseases, Brooklyn, N. Y., as well as several other institutions; therefore, this book has a background of experience in one of the most troublesome of metabolic conditions. The authors define diabetes as "characterized by a disturbance in the utilization and storage of the dextrose molecule by the body." In a succeeding paragraph, they emphasize how this unbalance disturbs the entire body economy, so that other undesirable effects such as the utilization of water and salt, protein assimilation and fat disposition all become deranged.

Chapter I deals entirely with the historical background, the physiology of respiratory metabolism, structural studies of the pancreas and investigations into the treatment and cure of diabetes. Other chapters are concerned with diagnosis, classification, the juvenile type, degeneration of other body systems, the circulatory system, etc., and special

sense organs, chiefly the eyes. It contains, of course, a great deal about the islands of Langerhans and the insulin derived from them. Diet is, to be sure, of the utmost importance and must be measured, weighed and managed to the last detail. We have come to think of diabetes as a "fat man's disease." This is not always true, although it is suggestive in overweight subjects and calls for a blood sugar determination, as well as a test for glycosuria, or its absence. With the book, the publisher has provided a separate Collens Diet Calculator which will prove of value, because it is equipped with a sliding scale to help determine the carbohydrate and protein-fat intake.

On page 234, there is a sentence which carries great hope. "The islands of Langerhans have the potential capacity for reversability in action, their function is not destroyed by the existence of the diabetic state." Some factor, removable under management, which causes interference in insulin and islet function may yet be found.

Surgery

Surgical Treatment of the Soft Tissues. Supervising editor, FREDERIC W. BANCROFT, A.B., M.D., associate clinical professor of surgery, Columbia University; attending surgeon, New York City and Beth David Hospitals. Associate editor, George H. Humphreys, A.B., M.D., Valintine Mott Professor of Surgery, Columbia University, College of Physicians and Surgeons. With 244 illustrations. Philadelphia, London and Montreal: J. B. Lippincott Co., 1946. Pp. xiv + 520. Price $15.00.

The two editors of this comprehensive volume have been ably assisted by twenty authors, all of whom hold positions of influence in the surgical world. Bancroft says that the term "soft tissue surgery" is used, because there is no better phrase. Since the blood vessels and lymphatics are included in this classification, such a legend as "subcutaneous surgery" would be a misnomer. He is much concerned with the still unsatisfactory results after herniotomy, and quotes statistics to show that, in a followup over a period of years, recurrences may be from 14 to 23 percent. The causes are infection, hematomata and seromata chiefly, plus complicating factors such as overstrain by patients who seemingly had excellent surgical repair. Catgut is less recommended than silk, because it may be absorbed before its usefulness is at an end. Nevertheless, silk is a foreign body and is "resented" by the tissues, so that a cell weakness may exist at the suture line. On the contrary, if granulation goes on, well up to and after the twelfth day, recurrence is less likely. Pneumonia after general anesthesia, with the resultant cough and muscular strain causes a breakdown or weakness of the abdominal walls. The transversalis muscle is to be relied upon more than any other muscle to hold back the weight of the abdominal contents. It is obvious that ideal suture material is not yet at hand, or is not yet known. One would like to know whether "glass thread", which has been developed in industry, has been tried out in herniotomies? According to some reports, it is well tolerated by the tissues, is strong, durable, and does not court bacterial growth. This reviewer finds no mention of it in the text.

"Incisional hernia" is a relatively new term which is used in this book to describe postoperative breakdown. It would include traumatic, phagedenic and unrepaired stab wounds, but the point is purely academic. Most hernias are quite obvious to the examiner, and all he needs to know is how to correct them *permanently*, since every operative patient looks like a "finished job" when taken off the operating table.

Cancer

Cancer Can Be Cured. By ALFRED J. CANTOR, M.D., specialist in proctology, author of *Ambulatory Proctology.* New York: Didier Publishers, 1946. Pp. x + 175. Price $2.50.

Dr. Cantor is a practicing proctologist, who holds "the cancer problem" close to his heart. In this little *précis* he aims to give hope and inspiration to all who may be "worried" about cancer, and to sound a word of caution to those who are not worried enough! At first glance, one might be inclined to think the chosen title rather too optimistic, but not so. Early diagnosis must be stressed, of course, otherwise there can be no cure at all, since advanced cancer patients always die, but every "hopeless case" was curable at some stage. It is at this point where physicians desire to make the attack.

The cost of a cure is well stressed in the introduction. The money available for research is disgustingly small—little more than five million dollars for the entire United States! It should be at least one hundred million. Why? Because this is a full-time job and cannot be successfully undertaken as a part-time pastime. It calls for the finest and best equipped laboratories, including animals which are expensive (monkeys in particular). The personnel must be of a high order and be possessed of a burning desire to contribute to one of the greatest battles that has ever confronted mankind. After many years, our Congress finally set up the National Research Cancer Institute with an appropriation of $750,000 for buildings, and $700,000 for a year's expenses. As noteworthy as this "advance" is, it is still wholly inadequate compared with any other monies earmarked for the army or navy, for our national drink bill, or the money spent on football and cigarettes!

Once a diagnosis is made, treatment is executed through surgery, radium or x ray—these three alone. We have, unfortunately, no medical treatment such as penicillin, and until we know "the cause", nothing can be hoped for in the matter of systemic agents introduced through the blood stream.

The author possesses a free, easy, flowing literary style, with a highly desirable "punch" which arouses and holds the reader's interest. The information contained in the book is accurate, forceful and cogent. It needs wide distribution both to the profession and to the public, and, by all means, should have it.

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MAY 1947

Medicolegal Notes

Damages Held Not Excessive

There is no rule of law which fixes a monetary measure of damages for pain and suffering in personal injury cases. Actna Oil Co., vs. Metcalf, 300 Ky. 817. "While the amount of the verdict must of necessity be controlled by the facts of the individual case . . . there is no better method of solving the problem of whether the verdict is excessive, than by comparing the injuries suffered with the amount of the verdicts returned in similar cases. In this case, $6,000 for pain and suffering in addition to $123.40 for doctor's bills to a city police lieutenant, who had suffered an extended duration of serious injury to his brain, was held to be not excessive, although the injury was not permanent.

In a similar case, an award of $2,500 to a forty year old woman, for injuries sustained on the left side of the head, back and shoulders, which prevented her from operating a bookkeeping machine, lifting heavy objects or working about the house, was held not excessive. El Paso City Lines Inc., vs. Prieto, Texas Court of Civil Appeals, 191 S.W. 2d 59.

Privileged Communications; Criminal Cases

"At common law, a physician was not disqualified from testifying to information acquired by him while attending the patient in a professional capacity, and as far as the Act of June 7, 1907, P.L. 462, 28 P.S. Sec. 328 is concerned, that statute applies only to civil cases: Commonwealth vs. Edwards, 318 Pa. 1, 6, 7, 178 A. 20,22,23." This was applied in a murder case where a physician, the superintendent of the prison where the defendant was committed, was not held disqualified from testifying as to the information acquired by him from the defendant, since the defendant was not a "patient" of the superintendent's. Commonwealth vs. Sykes, 353 Pa. 302, 45 A 2d 43.

Medical Evidence Insufficient to Show Loss of the Use of the Thumb

In a workmen's compensation proceeding, in which the referee awarded compensation for the loss of a thumb, an award affirmed by the Pennsylvania Workmen's Compensation Board and the Court of Common Pleas, the Pennsylvania Superior Court, Hines vs. Stokes Sales and Service. 158 Pa. Super. 536, 45 A 2d 234, held that the referee's finding of fact that the claimant had permanently lost the use of his left thumb, was not based on sufficient competent evidence. From the testimony of the only witness, a doctor, the appellate court was unable to determine the question, because of ambiquity and the lack of clarity of the testimony. They reversed the lower court's judgment and remitted the case for return to the compensation authorities for a further hearing.

Injured Employee's Right of Action Against Physician for Malpractice

Although an injured employee accepts, in a compensation agreement made under the Idaho Workmen's Compensation Act, a stated sum in payment of his injury including permanent partial disability, he is not precluded from recovering damages for injuries sustained by the negligence of a third party, between whom and the injured employee, the relation of employer and employee does not exist.

The provision in the Idaho Act relating to the liability of third persons, provides that when the employer has paid compensation or has become liable therefore because of injuries inflicted by a third person, the employer shall become subrogated to the rights of the injured employee, to recover against the third person. This provision operates in favor of the employer only as regards subrogation. Physicians who were employed by the employer to treat injured employees and who, in so doing, were allegedly guilty of malpractice as a result of which the employee's leg was amputated, were held subject to an action by the employee for such malpractice, notwithstanding the payment of compensation by the employer to the employee. Hancock vs. Halliday, Idaho Supreme Court, 171 P. 2d 333, reversing 65 Idaho 645, 150 P. 2d 137, 154, A.L.R. 295.

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Federal-State Hospital Construction Program

Regulations governing the nationwide Federal-State hospital construction program were recently issued by Surgeon General Thomas Parrán of the United States Public Health Service, Federal Security Agency. The program was created by the Hospital Survey and Construction Act, enacted August 13, 1946.

The act permits appropriations up to $3,000,000 to assist states in surveying and planning their hospital needs, and $75,000,000 annually for the next five years, to assist in the construction of hospitals and health centers. For administration and surveys $2,350,000 has been appropriated. No construction money has yet been appropriated, but funds for this purpose will be requested at the present session of Congress.

Although administration of the hospital program is left primarily to the states, the law specified that regulations shall be prescribed by the surgeon general and approved by the Federal Security Administrator and the Federal Hospital Council. The newly issued regulations cover type, size and distribution of hospitals; priority to be given to projects; general standards of construction and equipment; and state administration methods. Provision also is made to assure services to persons unable to pay.

The regulations also incorporate other requirements of the law. The number of general hospital beds to be distributed according to the act among base, intermediate and urban areas ranges from 4.5 to 5.5 beds per 1,000 population, depending on state population density. Regulations further qualify distribution from 2.5 beds per 1,000 population in rural areas to 5.5 beds per 1,000 in base areas. Should the combined number of beds allowed in various areas of a state be less than the total allowed for the entire state, remaining beds are to be distributed at the discretion of the state, with special consideration for hospitals serving rural areas and communities with relatively small financial resources.

Regulations follow the law on distribution of beds in tuberculosis, mental and chronic disease hospitals. Maximum beds for tuberculosis patients will be 2.5 times the average annual deaths from tuberculosis in the state over the five-year period from 1940 through 1944; for mental patients, five per 1,000 population; and for chronic disease patients, two per 1,000 population. The regulations stipulate that building of these hospitals shall be in centers of population and in proximity to general hospitals whenever practical.

The number of public health centers is not to exceed one for each 30,000 population, except in states with fewer than 12 persons per square mile, where the number of centers is not to be more than one for each 20,000 population. Each state has the authority to distribute these centers to conform to its individual organization of local health units.

Definitions of terms such as base, rural and intermediate areas, and types of hospitals, make up part of the regulations.

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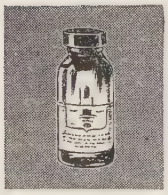

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X Ray Exposure with Magnified Image

In a recent issue of the *Philips Technical Review,* 8:11, 1946, Drs. G. C. E. Burger, B. Combee and J. H. van der Tuuk, in an article entitled, "X Ray Exposure with Magnified Image", state that the intrinsic lack of sharpness of an exposure screen (*e.g.,* about 1 mm.) makes it difficult to observe small details that do not show up well in contrast. By placing the object at a distance from the screen and close up to the focus, one obtains a magnified picture that is less affected by the (constant) lack of sharpness of the screen. In order to avoid the loss of the desired effect due to the strongly increased geometrical lack of sharpness when magnifying, x ray tubes with a very small focus have to be used. Furthermore, with this magnification, all contrasts in the picture are brought out more clearly, because with the greater distance between the object and screen, practically no scattered rays can fall on the latter. Due to the improved sharpness and contrast, certain groups of details are shown up which formerly were invisible, while the examination of larger pictures is much easier and less fatiguing. In certain cases this magnification involves a considerable loss of screen brightness, and the disadvantage of this in regard to the visibility of details is analyzed.

In medical diagnostics, magnification makes it necessary to limit the time during which a patient is kept under the x rays. Both phantom experiments and a series of tests with lung patients, have led to the conclusion that this magnification may constitute an appreciable ad-

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vance in diagnostics. The technique to be followed must be worked out further. The construction of the x ray tubes, especially developed by Philips for these experiments, is described under a separate heading; these tubes work with electrostatic focusing and provide two focii, one normal focus of 2.0 or 1.2 mm. width and a fine focus 0.3 mm. wide.

Fertility of American and Canadian Women

According to the *Statistical Bulletin,* September 1946, there is a characteristic difference between the fertility, according to age, among the women of the United States and those of Canada. For the latter, the peak is materially higher and is reached later in life; also, the decline in fertility with increased age is more gradual among the Canadian than among the women of the United States. Only among young women, those under twenty years of age, is the fertility rate lower in Canada than in the United States. At the ages of twenty and over, not only are the rates for Canadian women greater than for American women, but the difference widens with each advance in age.

At the ages of fifteen to nineteen years, there were 4,466 births per 100,000 white women in the United States in 1941; this was appreciably above the corresponding rate, 3,054, for Canadian women of the same ages. The higher fertility among young American women may be explained, in part, by the earlier marriage age in the United States. Even though American women ex-

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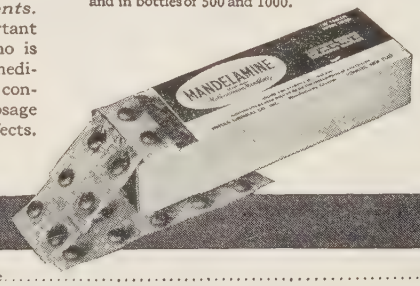

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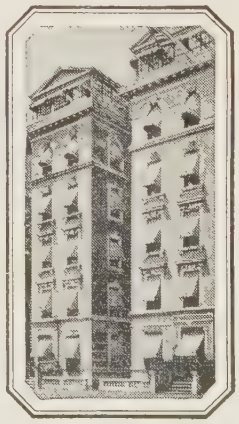

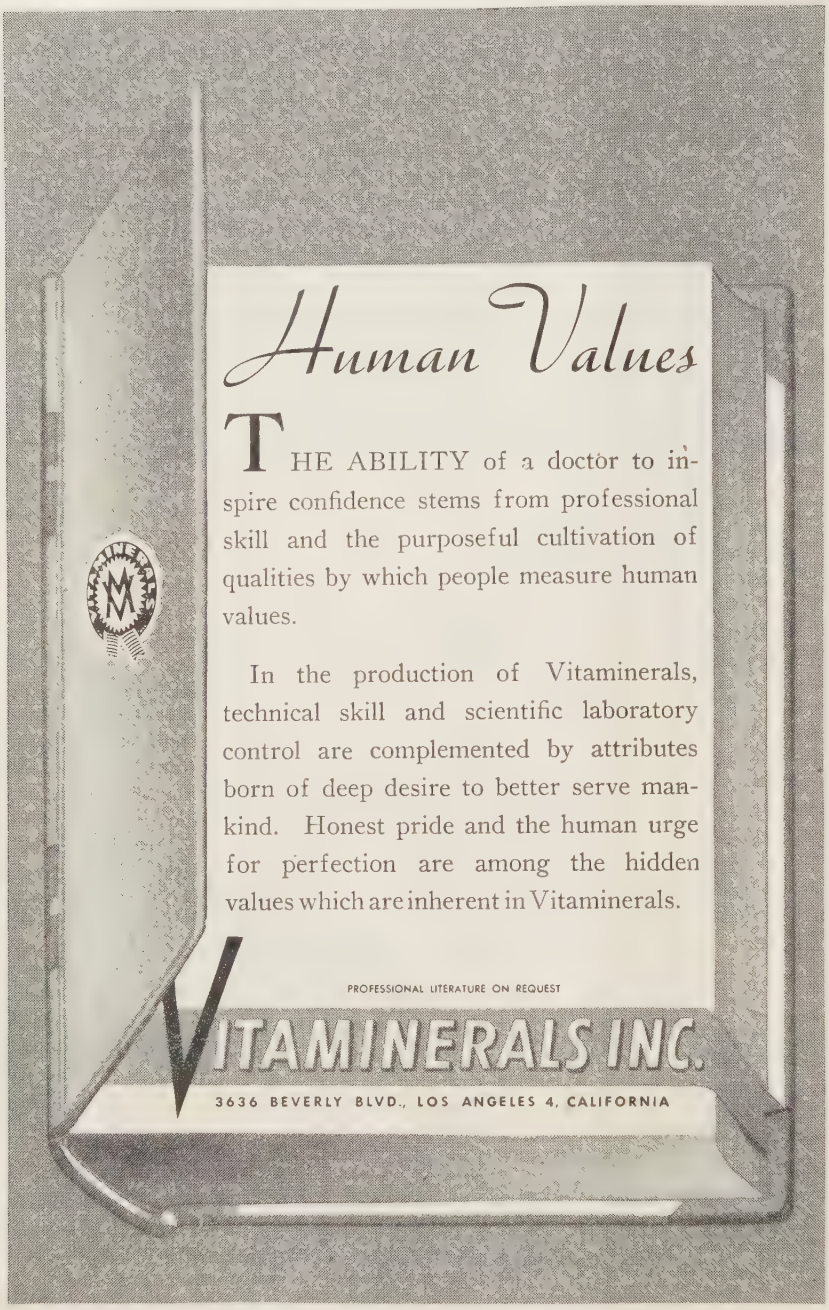
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perience their peak fertility in the age group of twenty to twenty-four years, the reproduction rate for white women in the United States falls below that for Canadian women. However, the disparity between the two figures at these ages is not great, amounting to only three percent.

Among the women of Canada, the peak in reproductivity is found in the next age group of twenty-five to twenty-nine years. For all of Canada, the rate was 15,984 births per 100,000 women, while for the province of Quebec alone, it was as high as 18,989. These rates are, respectively, 29 percent and 53 percent above that of American white women of the same ages.

From their peak, the rates decrease rapidly with advance in age to the end of the reproductive period, the decline being much more rapid for American women than for Canadian. The widening margin between the two sets of figures reflects the larger average size family in Canada.

The outlook for continued population growth by natural increase is, therefore, distinctly more favorable for Canada than for the United States. According to mortality and fertility conditions prevailing in 1940-1942, the Canadian population was then growing at a rate of 27 percent per generation. At about the same time, the corresponding conditions of mortality and fertility in the United States, were not much above the level required to just maintain a stationary population.

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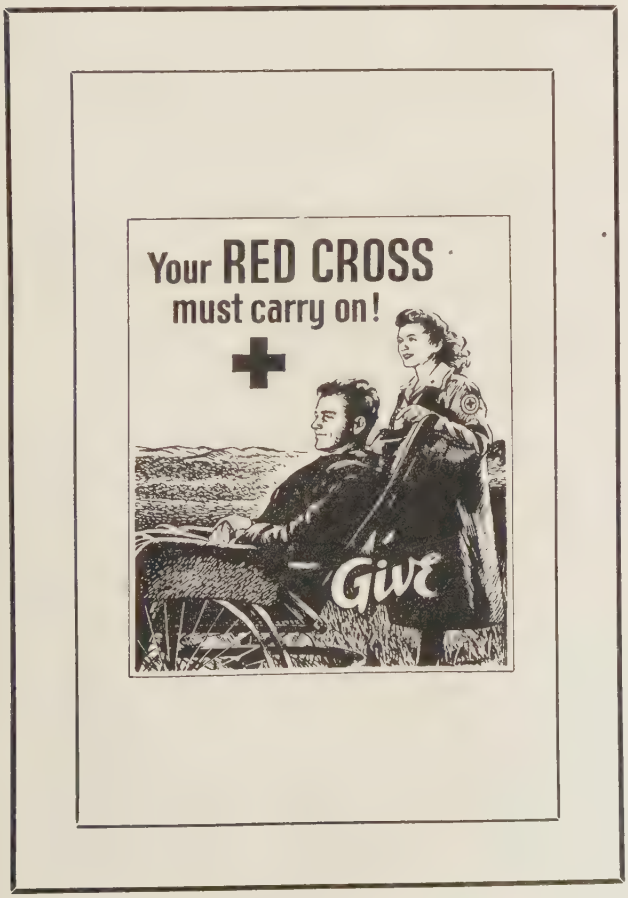
The Hebrew Medical Journal

Harofe Haivri (The Hebrew Medical Journal) which is dedicated to the continued growth of Hebrew medical literature, has concluded its nineteenth year of successful publication, under the editorship of Moses Einhorn, M.D. of New York.

The medical section of Volumes I and II, 1946 contain the following articles: "Renal lithiasis and its treatment" and "Urinary tract infections" by Abraham Hyman, M.D., "The menopause, an endocrine dysfunction" by Raphael Kurzrok, M.D., and "The present conception of the treatment of anemias" by Gershon Ginzburg, M.D. Under the heading of "Palestine and health", Ch. Berlin, M.D. and N. Lass M.D. offer two surveys on prevailing skin and allergic diseases in Palestine. Dr. T. Ashkenazi writes on hygiene and sanitation among the Bedouins. Dr. M. Sherman of Tel Aviv writes on the Palestine Jewish Medical Association (PJMA) of which he is president.

The sections on historical medicine contain two articles by Dr. Z. Muntner: one on the great physician and philosopher, Sabbathai Donnolo and the other on the ethics of the Jewish physicians in the ancient Hebrew literature. In addition, Volume I, 1946, contains a contribution by the editor, Moses Einhorn, M.D., on the impressions of his recent flying trip to Palestine.

Editorial Office: 983 Park Avenue, New York 28, N.Y.



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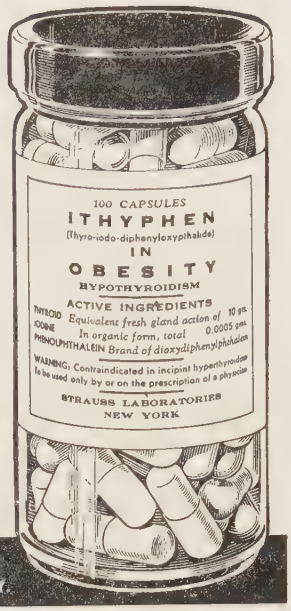

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NEW PRODUCTS

Digisidin, Pluraxin and Pontocaine Neosynephrine

Three new products are being introduced to doctors by the Winthrop Chemical Company, Inc., New York, N. Y., according to announcement made by J. G. Noh, vice-president and sales director. They are Digisidin, the principal glycoside of digitalis, known commonly as digitoxin; Pluraxin, a therapeutic formula type of multi-vitamin product; and Pontocaine Neosynephrine 0.25 percent solution, an anesthetic-vasoconstrictor for topical use.

Digisidin is supplied in tablets of 0.1 mg. (pink) and 0.2 mg. (white) in bottles of 50, 100 and 500 Pluraxin is supplied in bottles of 30 capsules and 100 capsules. Pontocaine Neosynephrine 0.25 percent solution is supplied in 1-ounce and 8-ounce bottles.

Proluton Vials

Proluton, a pure crystalline progesterone in oil, is now available in multiple dose vial packages. According to the manufacturers, widespread usage of the corpus luteum hormone preparation by the medical profession, particularly in the prevention of spontaneous and habitual abortion, has resulted in successfully bringing to term many threatened pregnancies.

The greater convenience, ease of administration and economy of Proluton in 10 cc. vials, each cc. containing 25 mg. of pure progesterone, has been emphasized. The Schering Corporation, Bloomfield, N. J., manufacturers of endocrine, x ray diagnostic, chemotherapeutic and other pharmaceutical products, also supplies Proluton in 1 cc. ampules, of 1 mg., 2 mg., 5 mg., and 10 mg. per cc.

All Cotton Elastic Bandage

The United States Rubber Company has completed plans for marketing its newest product in the drug sundry field, the U. S. Strex All-Cotton Elastic Bandage.

The bandage is one of the first products to be made with Strex yarn, a new elastic textile containing no rubber. Elasticity is achieved by twisting the yarn into the shape of a coil spring. The bandages will be made in widths of two, two and one-half and three inches. They are five and one-half yards long when fully stretched and three and one-half yards when relaxed.

The product is said to be soft in texture, with extra-porous construction and a knobby surface to prevent slippage. It may be used repeatedly and any elasticity lost during wear is fully restored by washing. It is said to be particularly useful in the treatment of sprained or weak joints, fallen arches, metatarsal disorders, amputation cases, variocose veins and ulcers.

Neosynephrine and Penicillin Combination

Neosynephrine and penicillin, for use in the treatment of acute and chronic sinusitis, is now being offered as a new prescription specialty by the Frederick Stearns & Co. Division, Sterling Drug Inc., Detroit, Mich.

A combination package contains one bottle each, of not less than 15,000 units of calcium penicillin and 15 ml. of Neosynephrine hydrochloride ¼ percent. The product is not for injection and is to be administered only by a physician.

The Neosynephrine is added to the penicillin for use as a vasoconstrictor. The resulting mixture may be kept in a refrigerator for one week without significant loss of potency.

Sympatol Ampuls

Sympatol, a 6 percent solution in ampul form, is now ready for distribution by the Frederick Stearns & Co. Division, Sterling Drug Inc., Detroit, Mich. The 1 cc. ampuls are packaged in bottles of six, for intramuscular and subcutaneous injections. Described as a stimulant to relieve chronic fatigue or asthenic states, the preparation was originally introduced by Stearns in tablet form, in bottles of fifty and as a 10 percent solution in 30 cc. bottles for oral administration. Both the tablets and the liquid are being continued.

Essenamine

The national release of Essenamine, the palatable or nearly tasteless protein hydrolysate, derived from lactalbumin, and developed by the Frederick Stearns & Co. Division, Sterling Drug Inc., Detroit, Mich., is announced by Dr. J. Mark Hiebert, vice-president and general manager.

The preparation was first introduced last fall when it was made available only to New England. Later as production increased, it was released to the Chicago area and to the entire Atlantic seaboard.

Packaged in 14 ounce jars, Essenamine is now available as a prescription specialty to all retail drug stores and hospitals throughout the country.

Estrogenic Hormone

The potent estrogen Progynon-B, an alpha-estradiol benzoate, is available for the first time in economical 10 cc. multiple dose vials. Each cc. of the crystalline, pure, follicular hormone preparation contains 0.166 mg. alpha-estradiol benzoate, having a potency of 1,000 rat units, equivalent to 10,000 international units. Progynon-B, alpha-estradiol benzoate, is the hormone ester having the highest activity and a markedly prolonged action. Produced by the Schering Corporation, Bloomfield, N. J., Progynon-B in vials is many times more potent than the secondary metabolites, estrone and estriol. The vials are packed singly and in multiples of six vials.

Disposable Glass Syringe for Penicillin in Oil and Wax Injections

Because of the limitations inherent in the plastic syringe container of penicillin in oil and wax, with its dual danger of breakage and inability to aspirate, a disposable glass syringe "package" has been perfected by Premo Pharmaceutical Laboratories, New York, N. Y., according to an announcement by Stanley Blackman of that organization. This refinement in the application of penicillin in oil and wax requires no refrigeration. Moreover, injections can be made at room temperature without heating or special assembly of any kind.

Handily packaged in a sealed, transparent, unbreakable plastic tube, Premo's glass syringe container of penicillin is compact enough to fit the doctor's vest pocket. The glass syringe is re-useable for general purposes.

Instrument for Diagnosing Glaucoma

A small device, known as the Allen Gonioscope, weighing less than one-tenth of an ounce, and which permits routine gonioscopic examination of the eye for thorough diagnosis, observation and planning of eye surgery, has been developed.

Hailed by ophthalmologists as a "revolutionary contribution" to the study of eye diseases, particularly glaucoma, which causes more blindness than any other eye disease, the gonioscope permits examination of the anterior angle of the eye. Especially valuable in observing glaucoma, the gonioscope is also used for other clinical studies such as trauma, inflammatory processes, pigmentary anomalies, and the like.

The device was developed by Bausch & Lomb Optical Company scientists, from a design of Lee Allen, University of Iowa, and will help to overcome a problem which has confronted eye doctors for many years. Previously it was practically impossible to see into the part of the eye that is vital in diagnosing glaucoma, because light reflects from the "glassy" surface of the eye, obscuring the anterior portion.

The instrument's small, precision optical prism held against the eye itself, redirects the light and enables the eye doctor, aided by a split lamp microscope, to see "around" the cornea, and into the channels where the disease occurs. The prisms, mounted in a small plastic speculum, is rotatable so the entire corneal area may be easily examined.

A limited number of gonioscopes have already been produced and will be shipped this week to ophthalmologists and leading teaching institutions. More are being manufactured, but it is a slow, tedious process to produce precision surfaces on a prism which must necessarily be so light in weight. That factor was one of the most difficult problems to overcome. The entire instrument had to be light enough to fit into the eye like a contact lens and be held in place solely by the patient's eye lids. Suspended within the plastic speculum by fine spring wire, the prism can be moved by hand, around the entire corneal area, by means of a small rotation pin.

"I have not strength to dig; to beg I am ashamed."

—LUKE 16:3

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Parenamine Amino Acid Solution

A new and improved amino acids solution known as Parenamine 6 percent is being introduced by Frederick Stearns & Co. Division, Sterling Drug Inc., Detroit, Mich., according to Dr. J. Mark Hiebert, vice president and general manager.

Three advantages of the new solution are listed as: 1. convenience and ease of administration; 2. minimum thrombosis; and 3. low ash (sodium ion) content.

Parenamine 6 percent solution, containing 60 gm. amino acids in 1,000 cc. distilled water, is supplied in liter flasks with a sterile seal, ready for immediate use. It may be conveniently used with any type of intravenous delivery set.

It is described as a "sterile solution of amino acids derived by acid hydrolysis of casein and fortified with dl-tryptophane, dl-methionine and glycine." It contains all the amino acids known to be essential for man, plus other amino acids native to casein.

Broadly, the solution is indicated for use as a parenteral protein substitute or supplement for the prevention or correction of protein malnutrition. The division's medical department points out that hypoproteinemia is frequently associated with the following conditions: 1. Inadequate protein intake or faulty absorption associated with gastrointestinal disturbances; 2. increased protein demand as in hypermetabolic states, pregnancy and lactation, febrile states and rapid growth; 3. increased protein loss as in hemorrhage, serum exudation, proteinuria and high urinary nitrogen excretion associated with trauma, surgery, burns and certain endocrine disturbances; and 4. impaired protein formation as in infection, cirrhosis and other pathologic liver conditions.

The average maintenance dosage of protein is 1.0 gm. per kilogram of body weight per day. For all practical purposes, Parenamine 6 percent can be used gram for gram as a protein equivalent.

Parenamine 6 percent may be injected intravenously, intrasternally or subcutaneously. Clinical experience has demonstrated that the average patient can usually metabolize 15 gm. per hour.

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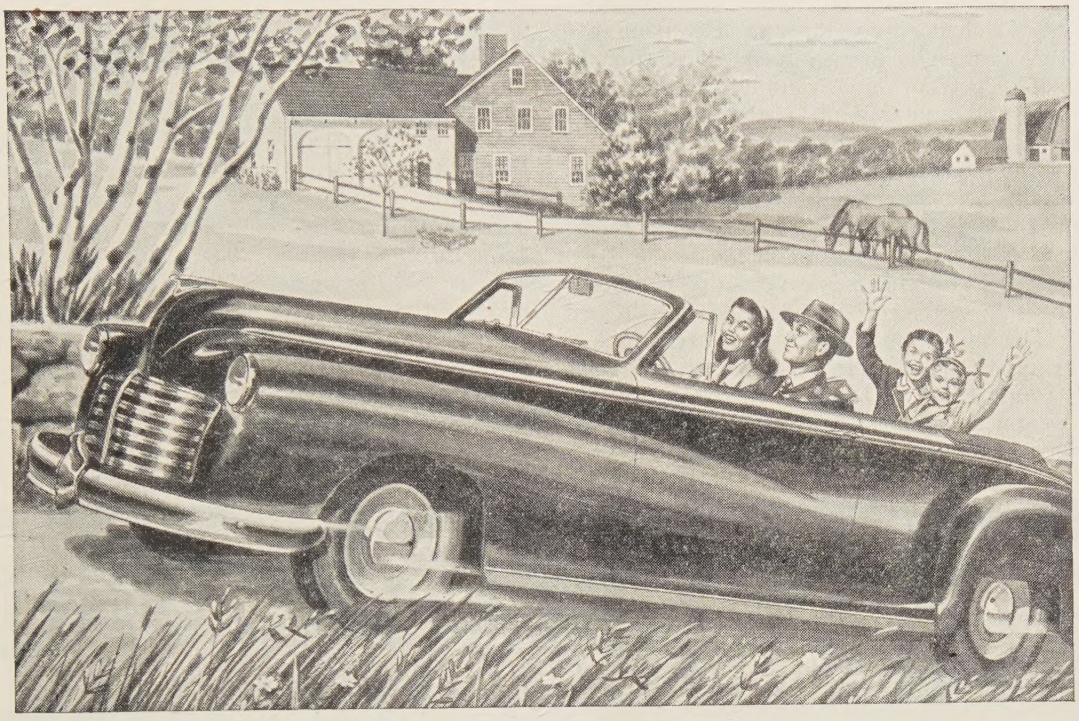

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lot of Parenamine 6 percent, before being released for distribution and clinical use, is checked for freedom from pyrogens in animals and clinically, by intravenous injection in full therapeutic doses. By submitting control guinea pigs and casein-sensitive guinea pigs to challenging doses of Parenamine 6 percent, the solution is proved to be non-antigenic. Parenamine 6 percent is a complete mixture of amino acids and contains no proteins or protein fragments which might be allergenic.

It has been shown that there is no significant change in the acid-base equilibrium of the blood, during or following administration of full therapeutic doses of Parenamine 6 percent.

The biological efficiency of Parenamine 6 percent used as the sole source of nitrogen has been tested in dogs. The minimum amount of Parenamine 6 percent required to maintain positive nitrogen balance was found to be 110 mg. of nitrogen per kilo of body weight as compared to 140 mg. per kilo of body weight for casein.

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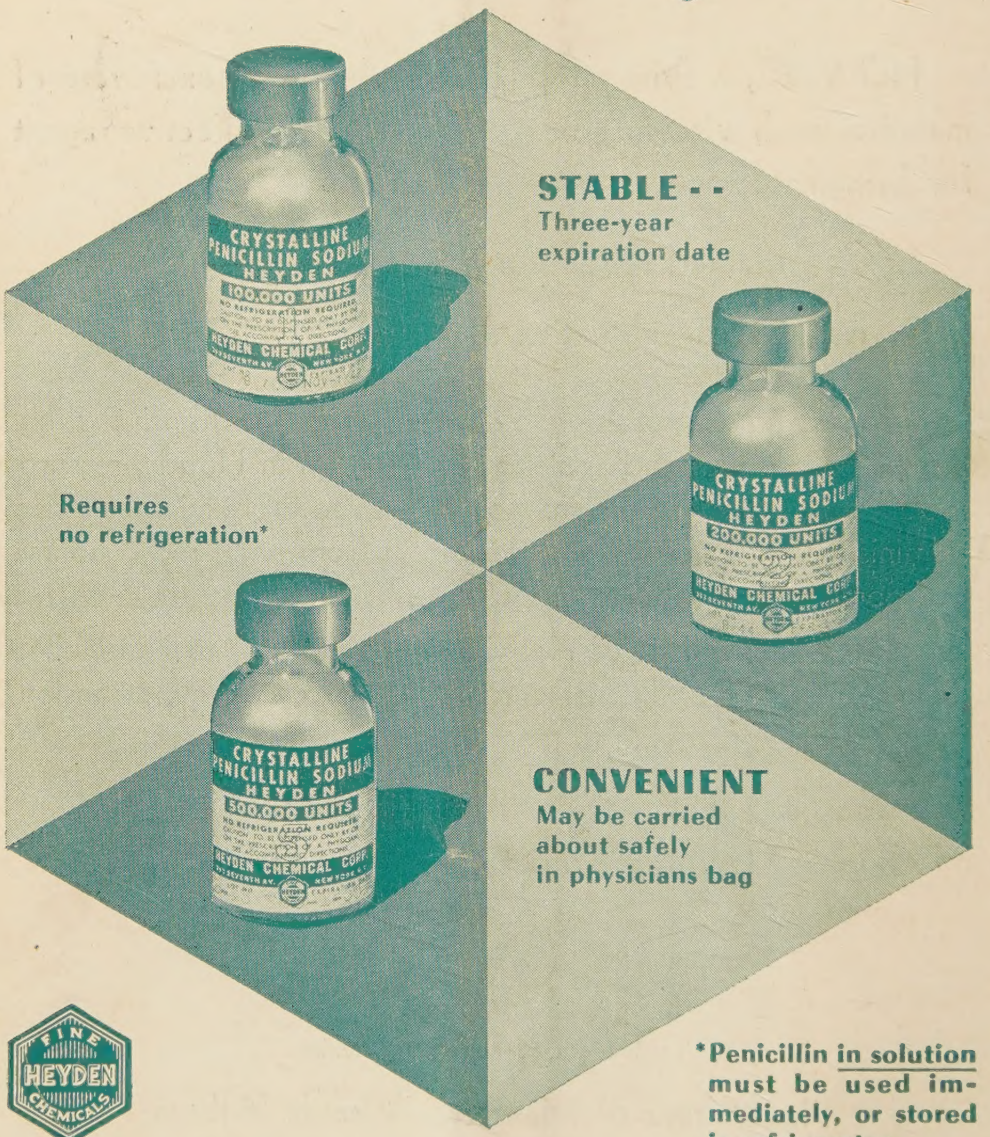

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